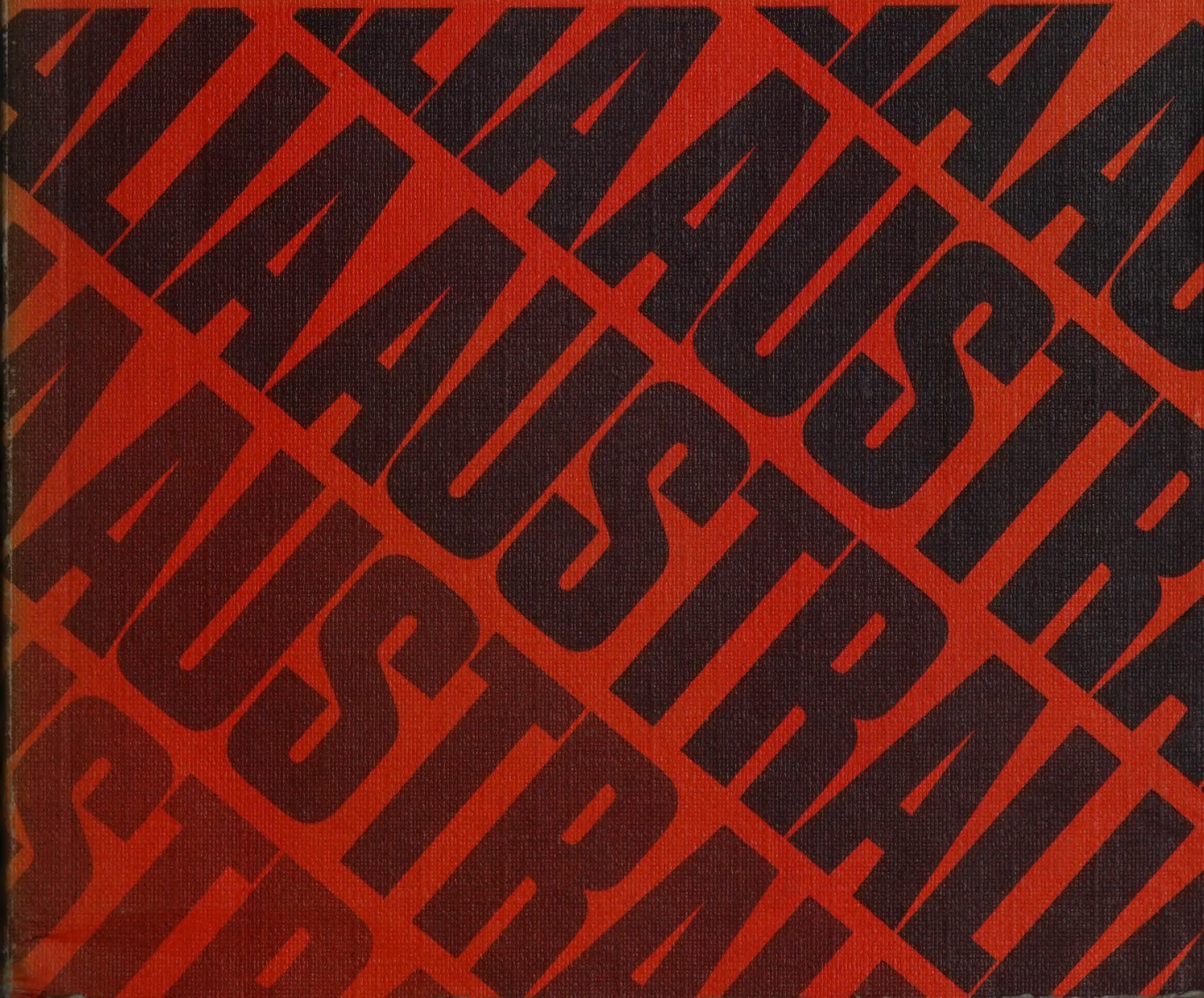
YEAR BOOK 1980
AUSTRALIA



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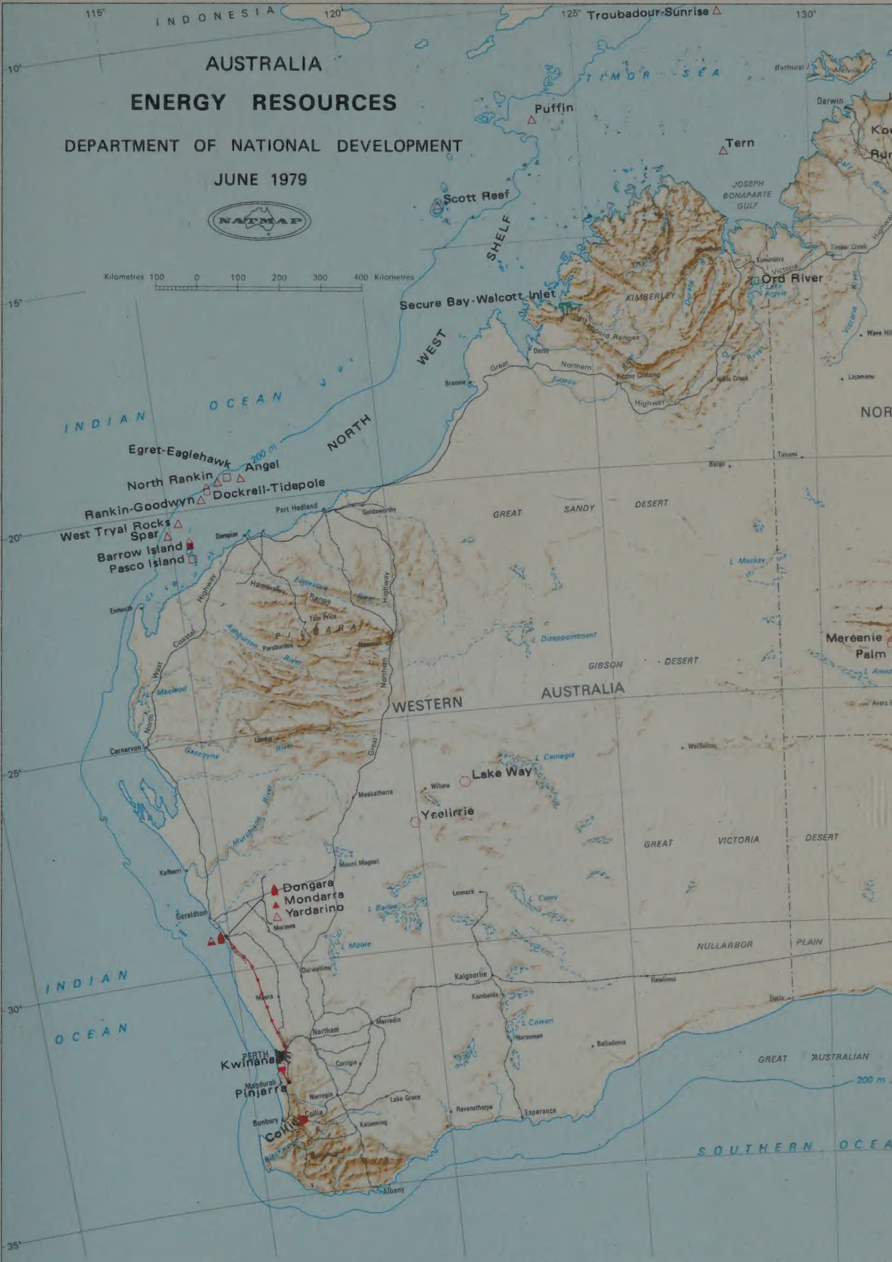
AUSTRALIA
ENERGY RESOURCES

DEPARTMENT OF NATIONAL DEVELOPMENT

JUNE 1979

NATMAP



Kilometres 100 0 100 200 300 400 Kilometres
115°
120°
125°
130°
10°
15°
20°
25°
30°
35°
INDONESIA
Troubadour-Sunrise
TIMOR SEA
Bathurst I
Melville
Darwin
Puffin
Tern
JOSEPH BONAPARTE GULF
Scott Reef
SHELF
WEST
NORTH
Secure Bay-Walcott Inlet
KIMBERLEY
Leopold Ranges
Kununurra
Victoria
Ord River
Lake Argyle
Timber Creek
Wave Hill
Lajamanu
Derby
Broome
Great
Northern
Highway
Fitzroy
Fitzroy Crossing
Halls Creek
Tanami
Balgo
NOR
INDIAN OCEAN
200 m
Egret-Eaglehawk
Angel
North Rankin
Dockrell-Tidepole
Rankin-Goodwyn
West Tryal Rocks
Spar
Barrow Island
Pasco Island
Port Hedland
Goldsworthy
Dampier
Exmouth
Hamersley Range
Fortescue River
Tom Price
PILBARA
Paraburdoo
Ashburton River
Newman
Coastal
West
North
Highway
Macleod
Carnarvon
Gascoyne
Landor
River
Great Northern Highway
GREAT SANDY DESERT
L Mackay
L Disappointment
GIBSON DESERT
WESTERN AUSTRALIA
Mereenie
Palm
L Amadeus
Ayers Rock
Warburton
L Carnegie
Lake Way
Wiluna
Meekatharra
Yeelirrie
Murchison River
Mount Magnet
GREAT VICTORIA DESERT
Kalbarri
Geraldton
Dongara
Mondarra
Yardarino
Morawa
L Barlee
Leonora
L Carey
L Moore
Dalwallinu
NULLARBOR PLAIN
Kalgoorlie
Kambalda
Rawlinna
Eucla
INDIAN OCEAN
Moora
Northam
Merredin
L Cowan
Norseman
Balladonia
PERTH
Kwinana
Mandurah
Pinjarra
Corrigin
Narrogin
Lake Grace
Ravensthorpe
Esperance
Bunbury
Collie
Katanning
Blackwood
Albany
GREAT AUSTRALIAN
200 m
SOUTHERN OCEAN

FUELS

Mineral Name	Mine, Field or Area.			Refinery or Processing Plant
	Undeveloped	Being Developed	Producing	
Coal, Black	○	◐	●	
Coal, Brown		✹	✹	
Natural Gas	△		▲	△
Oil	□	◧	■	⬓
Oil and Natural Gas	△	▲	▲	▲
Oil Shale	✣			
Uranium	○	◐	●	

OTHER ENERGY SOURCES

	Potential Site	Under Construction	Operating
Hydro-electric power	□	◧	■
Tidal power	T		

FUEL MOVEMENTS

Railway	—+—+—+—
Road	———
Pipeline	
Oil	▪▪▪▪▪▪▪
Natural Gas	—•—•—•—

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110°

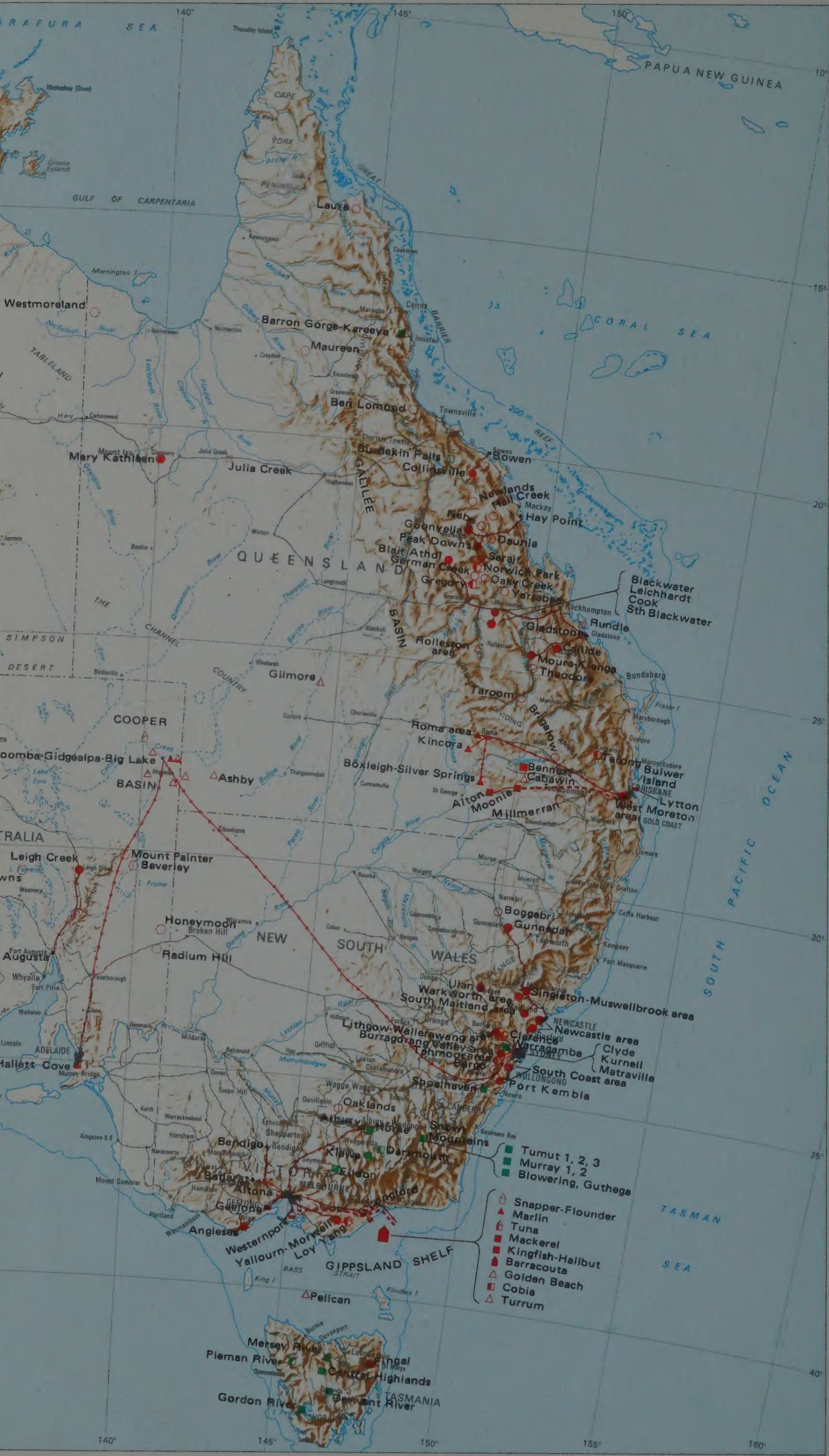
115°

120°

125°

130°

40°


ARAFURA SEA
140°
145°
150°
Thursday Island
PAPUA NEW GUINEA
10°
Wessel Is
Nhulunbuy (Gove)
Groote Eylandt
CAPE
YORK
PENINSULA
Weipa
Archer R
Coen
GULF OF CARPENTARIA
GREAT
Laura
Kowanyama
Cooktown
Mitchell
Mornington I
15°
Westmoreland
Cairns
BARRIER
Barron Gorge-Kareeya
Innisfail
CORAL SEA
Nicholson River
Burketown
Normanton
Croydon
Maureen
TABLELAND
Leichhardt River
Cloncurry
Flinders R
Einasleigh
Greenvale
Ingham
Hwy
Camooweal
Ben Lomond
Townsville
200 m
REEF
Mount Isa
Duchess
Mary Kathleen
Julia Creek
Charters Towers
Burdekin Falls
Bowen
Collinsville
GALILEE
Hughenden
Newlands
Hail Creek
Mackay
Hay Point
20°
Winton
Nebo
Goonyella
Peak Downs
Saraji
Daunia
Boulia
Blair Athol
German Creek
Norwich Park
QUEENSLAND
Gregory
Oaky Creek
Yarrabee
Longreach
Emerald
Blackwater
Blackwater
Leichhardt
Cook
Sth Blackwater
Rockhampton
Rundle
Gladstone
Gladstone
THE
CHANNEL
Thomson
Barcoo
Blackall
BASIN
Rolleston area
Callide
Moura-Kianga
Theodore
Bundaberg
SIMPSON
DESERT
Windorah
Birdsville
COUNTRY
Gilmore
Taroom
Fraser I
Maryborough
Mundubbera
Gympie
COOPER
Cabaw Quilpie
Charleville
Roma area
Kincora
Roma
Miles
Brigalow
DIVIDING
25°
Tarong
Kingaroy
Maroochydore
Bulwer Island
Moomba-Gidgealpa-Big Lake
Moomba
BASIN
Lake Eyre
Ashby
Thargomindah
Boxleigh-Silver Springs
Bennett
Cabawin
Toowoomba
BRISBANE
Lytton
West Moreton area
GOLD COAST
Cunnamulla
St George
Alton
Moonie
Millmerran
Goondiwindi
Warwick
OCEAN
AUSTRALIA
Tibooburra
Leigh Creek
Mount Painter
Beverley
L Frome
Moree
Lismore
Woomera
Bourke
Walgett
Inverell
Grafton
PACIFIC
Narrabri
Boggabri
Gunnedah
Coffs Harbour
Honeymoon
Broken Hill
Wilcannia
Darling
NEW
Cobar
SOUTH
WALES
Gunnedah
Tamworth
Kempsey
Port Macquarie
30°
Port Augusta
Augusta
Radium Hill
Whyalla
Peterborough
Port Pirie
Dubbo
Ulan
Warkworth area
South Maitland area
Singleton-Muswellbrook area
Parkes
Wallaroo
Orange
NEWCASTLE
Newcastle area
SOUTH
Renmark
Hillston
Forbes
Lithgow-Wallerawang area
Burragorang Valley area
Bathurst
Clarence
Warragamba
Clyde
Kurnell
Matraville
Lincoln
ADELAIDE
Mildura
Lachlan
Griffith
Tahmoor area
Cargo
SYDNEY
Hallett Cove
Murray Bridge
Balranald
Hay
Murrumbidgee
Goulburn
South Coast area
WOLLONGONG
Port Kembla
Nowra
Cootamundra
Wagga Wagga
Shoalhaven
Swan Hill
Murray
Deniliquin
Oaklands
CANBERRA
Keith
Warracknabeal
Echuca
Albury
Hume
Snowy Mountains
Batemans Bay
Kingston S E
Horsham
Shepparton
Wangaratta
Naracoorte
Bendigo
Bendigo
Kiewa
Dartmouth
Tumut 1, 2, 3
Murray 1, 2
Blowering, Guthega
35°
Seymour
Eildon
VICTORIA
Mount Gambier
Hamilton
Ballarat
Altona
MELBOURNE
Geelong
GEELONG
Portland
Warrnambool
Anglesea
Westernport
Yallourn-Morwell
Loy Yang
Bairnsdale
Sale
Longford
Snapper-Flounder
Marlin
Tuna
Mackerel
Kingfish-Halibut
Barracouta
Golden Beach
Cobia
Turrum
TASMAN
SEA
GIPPSLAND SHELF
BASS
STRAIT
King I
Flinders I
Pelican
Burnie
Devonport
Launceston
Mersey River
South Esk
Fingal
St Marys
Pieman River
Queenstown
Central Highlands
Gordon River
L Pedder
Derwent River
HOBART
TASMANIA
40°
140°
145°
150°
155°
160°

YEAR BOOK AUSTRALIA

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AUSTRALIA

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GENERAL INFORMATION

Symbols

The following *symbols*, where shown in columns of figures or elsewhere in tables mean:

n.a.	not available
n.y.a.	not yet available
–	nil or rounded to zero
. .	not applicable
n.p.	not available for separate publication (but included in totals where applicable)
p	preliminary—figure or series subject to revision
r	figures or series revised since previous issue
n.e.i.	not elsewhere included
n.e.c.	not elsewhere classified
———	break in continuity of series (where drawn across a column between two consecutive figures)

m.—males; f.—females; p.—persons.

Other forms of usage

The following *abbreviations* are used for the titles of the Australian States and Territories and Australia: N.S.W. (New South Wales), Vic. (Victoria), Qld (Queensland), S.A. (South Australia), W.A. (Western Australia), Tas. (Tasmania), N.T. (Northern Territory), A.C.T. (Australian Capital Territory), Aust. (Australia).

In general, the *statistics in this volume relate to the States and Territories of Australia,* i.e. they exclude particulars of the External Territories of Australia, which, however, are specifically dealt with in Chapter 27, Territories of Australia. A few series elsewhere include particulars of Papua New Guinea because of the nature of the subject-matter; these series are indicated.

Yearly periods shown as e.g. 1978 refer to the year ended 31 December 1978; those shown as e.g. 1977-78 refer to the year ended 30 June 1978. Other yearly periods are specifically indicated. The range of years shown in table headings, e.g. 1901 to 1977-78, indicates the period covered, but does not necessarily imply that each intervening year is included.

Values are shown in Australian dollars ($ or $A) or cents (c) unless another currency is specified.

Catalogue numbers. Throughout this book references are made to ABS publications. In each case the catalogue number is shown in brackets; this should be quoted when ordering these publications (*see* below).

Where figures have been rounded, *discrepancies may occur between sums of the component items and totals.*

Availability of ABS publications

Information regarding the availability of ABS publications can be obtained from the Information Services Section, Australian Bureau of Statistics, P.O. Box 10, Belconnen, A.C.T. 2616 Australia, phone (062) 52 6627, or from other ABS offices in each capital city and in Darwin.

A complete list of ABS publications produced in Canberra and in each of the State Offices is contained in the ABS *Catalogue of Publications*, which is available free of charge from any ABS office.

In some cases, the ABS can also make available information which is not published. This information may be made available in one or more of the following forms: microfiche, photocopy, data tape, computer printout, clerically—extracted tabulation. Generally, a charge is made for providing unpublished information. Inquiries may be made by contacting Infomation Services in the nearest ABS Office.

PREFACE

By the Constitution of the Commonwealth of Australia, the Parliament of the Commonwealth is empowered, subject to the Constitution, 'to make laws for the peace, order, and good government of the Commonwealth, with respect to . . . Census and statistics.' In the exercise of the power so conferred, a Census and Statistics Act was passed in 1905, and in the year following the Commonwealth Bureau of Census and Statistics was created. During the late 1960s and early 1970s it became increasingly evident that new statistical legislation was required to enable the Bureau to respond to the changing needs of Government. As a consequence, the *Australian Bureau of Statistics Act*, 1975 was enacted in mid 1975. The Act came into operation from 3 May 1976. The legislation established the Australian Bureau of Statistics (ABS) as the central statistical authority for the Commonwealth Government, the office of the Australian Statistician and the Australian Statistics Advisory Council (ASAC).

The first Official Year Book was published early in 1908. This is the sixty-fourth Year Book issued under the authority of the Commonwealth Government. The Year Book is the principal general reference work produced by the Central Office of the Australian Bureau of Statistics. It provides a comprehensive and detailed statistical review of all aspects of the economy and social conditions of Australia, and in addition contains descriptive matter dealing with Australia's history, geography, physiography, climate and meteorology, government, defence and repatriation services, and international relations.

This issue contains a special article on the Landsat satellite. The article describes the application of Landsat imagery in a number of fields including hydrology and water resources, mineral resources, agriculture and forestry and has been prepared by the Department of Science and the Environment.

In the various chapters of the Year Book, and in the special index which precedes the general index, there are references to special articles, background material and items of historic interest which have appeared in previous issues.

Most of the statistics contained in this volume relate to the years ended June or December 1978 or 1979. More detailed statistics on subjects dealt with in the Year Book are available in the various annual reports published by the ABS, while more recent statistics are contained in the *Digest of Current Economic Statistics, Australia* (monthly) (1305.0), the *Monthly Summary of Statistics, Australia* (1304.0) and in other ABS publications issued monthly, quarterly, half-yearly, or yearly.

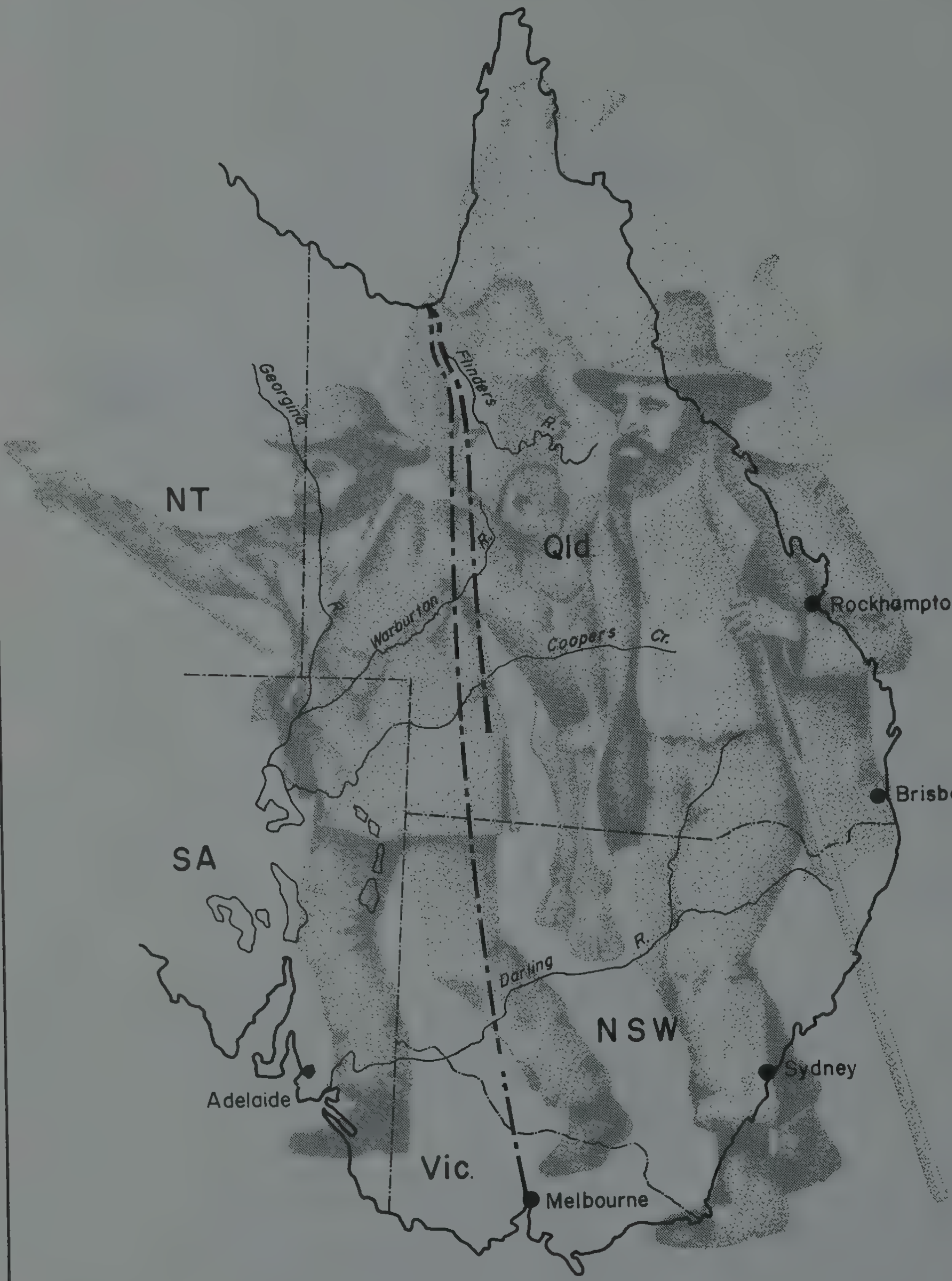
My thanks are tendered to the responsible officers of the various Commonwealth and State Departments and Organisations who have kindly supplied material for the preparation of the Year Book.

R. J. CAMERON
Australian Statistician

Australian Bureau of Statistics,
Canberra, A.C.T. 2600.
August 1980.

CHAPTER 1

PRE-HISTORY TO FEDERATION


Georgina
Flinders
R.
NT
R.
Qld.
R.
Warburton
Coopers Cr.
Rockhampton
Brisbane
SA
R.
Darling
NSW
Sydney
Adelaide
Vic.
Melbourne

The route of the ill-fated explorers Burke and Wills, 1860-1861 (*see page* 6).

CHAPTER 1

FROM PRE-HISTORY TO FEDERATION

Early knowledge and discovery of Australia

Pre-history

Man entered the Australian continent from the South-East Asian area during the last glaciation at least 40,000 years ago, when sea levels were lower than in recent times. Nevertheless, these first migrations would have entailed sea voyages of at least some 60 kilometres. Settlement was well established at least 25,000 to 30,000 years ago, and by 20,000 years ago almost all the continent was inhabited.

The original Australians, the Aboriginals, probably achieved maximum exploitation of local resources within the limits of their technology. Population balance had apparently been attained long before European settlement, and anthropologists accept that there were at least some 250,000 to 300,000 Aborigines in Australia in 1788.

The physical barriers of distance and aridity within Australia itself were cause in part of the cultural isolation and linguistic diversity of its people. European exploration and settlement was for most Aboriginal societies their first contact with an outside culture. The impact of this settlement led rapidly to the disappearance of the traditional Aboriginal way of life in those areas where the colonists established themselves most successfully.

More detailed notes on Aboriginal culture can be found in Year Book No. 63.

Terra Australis

Although references to an Austral land are found in the works of writers in the early centuries after Christ, and evidence appears in maps, globes, and manuscripts from the Middle Ages onward, there is no definite evidence connecting this so-called *Terra Australis* with Australia. Cornelius Wytfliet's map of 1597, however, indicates roughly the eastern and western coasts of Australia, as well as the Gulf of Carpentaria.

Early discoveries of Australia

The Portuguese may have discovered part of the Australian coast before 1542, and it has been suggested that the Arabs may have come to Australia even earlier, though there is no evidence to support this theory. For all practical purposes, however, the coastal exploration of Australia may be taken as having begun with the Spaniards and the Dutch.

Discoveries by the Spanish

In 1606 the Spaniard, Quiros, on reaching the island that has retained the name of Espiritu Santo (the largest island of the New Hebrides group), thought he had discovered the great land of the south and therefore named the group *La Australia del Spiritu Santo.* After leaving the New Hebrides, Quiros sailed eastward, but Torres, his second-in-command, took a westerly course and passed through the strait that now bears his name. In all probability he sighted the Australian continent, although no mention of it is made in his records.

Discoveries by the Dutch

A map published by Cornelius Wytfliet in 1597 had indicated roughly the eastern and western coast of Australia, as well as the Gulf of Carpentaria.

The Dutch first explored the coast of Australia when, during 1606, the yacht *Duyfken* having coasted along the southern shores of New Guinea, followed the west coast of Cape York Peninsula as far as Cape Keer-Weer (Turn Again). Subsequent visits were made by Hartog (1616), de Houtman (1619), Carstensz (1623), Thijssen (1627), Pelsaert (1629), Tasman (1642) and others, so that by 1644 the Dutch had discovered and explored the Australian coast from Fowler's Bay in the South to the tip of Cape York Peninsula, as well as the south of Tasmania.

More detailed notes on discoveries by the Dutch can be found in Year Book No. 63.

Discoveries by the English

In the meantime, the English had made their first appearance on the Australian coast in 1688, when the north-westerly shores were visited by William Dampier as supercargo of the *Cygnet*, a trading vessel whose crew had turned buccaneers. In 1699 he again visited Australia in command of H.M.S. *Roebuck* and, on his return to England, published an account in which a description was given of trees, flowers, birds, and reptiles observed, and of encounters with natives.

At the end of the seventeenth century it was uncertain whether Tasmania and New Zealand were parts of Australia or whether they were separated from it but themselves formed part of a great Antarctic Continent. Lieutenant (later Captain) James Cook's first voyage, though undertaken primarily for the purpose of observing from Tahiti the transit of Venus, had also the objective of ascertaining whether the unexplored part of the southern hemisphere was only an immense mass of water or whether it contained another continent. In command of H.M.S. *Endeavour*, and accompanied by botanist Sir Joseph Banks, naturalist Dr Daniel Solander, astronomer Charles Green, draughtsmen and servants, Cook, after observing the transit of Venus at Tahiti, turned towards New Zealand, sighting that land on 7 October 1769 in the neighbourhood of Poverty Bay.

On 20 April 1770, Cook sighted the Australian mainland at a place he called Point Hicks, naming it after his first-lieutenant, who first saw it. Coasting northwards, on 29 April 1770 he discovered Botany Bay, where he landed. Cook sailed along the coast in a northerly direction for nearly 2,100 kilometres until 11 June 1770, when the *Endeavour* was seriously damaged by striking a coral reef in the vicinity of Trinity Bay. Repairs occupied nearly two months, and the *Endeavour* then again set her course to the north, through Torres Strait.

More detailed notes on Cook's voyages can be found in Year Book No. 63.

The annexation of Australia

Possession taken of eastern coast of Australia by Captain Cook

On 22 August 1770, the history of Australia was brought into definite political connection with western civilisation when Captain Cook took possession 'of the whole eastern coast, from latitude 38°S. to this place, latitude 10½°S. in right of His Majesty King George the Third', i.e. over only what now is Victoria, the eastern parts of New South Wales and Queensland.

Annexation of eastern part of Australian continent and Tasmania

Formal possession on behalf of the British Crown of the whole of the eastern part of the Australian continent and Tasmania was not taken until 26 January 1788, when Captain Phillip's commission, first issued to him on 12 October 1786 and amplified on 2 April 1787, was read to the people whom he had brought with him in the 'First Fleet'. The commission appointed Phillip 'Captain-General and Governor-in-Chief in and over our territory called New South Wales, extending from the Northern Cape or extremity of the coast called Cape York, in the latitude of ten degrees thirty-seven minutes south, to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of forty-three degrees thirty-nine minutes south and of all the country inland westward as far as the one hundred and thirty-fifth degree of east longitude reckoning from the meridian of Greenwich, including all the islands adjacent in the Pacific Ocean within the latitudes aforesaid of ten degrees thirty-seven minutes south and forty-three degrees thirty-nine minutes south'.

By the middle of 1829, the whole territory, now known as Australia, had been constituted a dependency of the United Kingdom.

For more detailed notes on the annexation of Australia, *see* Year Book No. 63.

The exploration of Australia

Early exploration

From 1788, when Governor Phillip established his colony on the shores of Port Jackson, expeditions began to explore the immediate area of settlement in search of good farming land. Among suitable locations discovered were those just above the head of navigation of the Parramatta River, where the settlement of Rose Hill (later Parramatta) was established in November 1788, and the alluvial flats of the Hawkesbury River, which were explored in 1789.

Other minor exploratory journeys in the 1790s and early 1800s included John Wilson's two investigations of various parts of the Southern Highlands of New South Wales, Lieutenant John Shortland's discovery of the Hunter River (and the future site of Newcastle), and expeditions by Henry Hacking (1794), George Bass (1796), Francis Barrallier (1802) and George Caley (1804) to penetrate the mountain foothills west of the Nepean River.

By the end of the first two decades of colonisation, settlement stretched along the east coast from the Hawkesbury River to the cedar forests of Illawarra, but for barely 65 kilometres inland, where it was compacted by the seemingly impenetrable barrier presented by the Blue Mountains.

The encumberment on the existing land persisted until 1813, when Gregory Blaxland, Lieutenant William Lawson and William Charles Wentworth succeeded in finding a route through the mountain range, thereby allowing the later exploratory parties of George William Evans (1813 and 1815), John Oxley (1817 and 1818), Allan Cunningham (1823 and 1827), Hamilton Hume and William Hovell (1824) and others to open the way for expansion from Port Phillip in the south to the Darling Downs in the north.

Exploring the eastern rivers and to the south

Between 1828 and 1841, exploration of south-eastern Australia was concerned mainly with establishing whether or not there was a large river system emptying into the sea on the south coast.

Between late 1828 and early 1829, an expedition led by Charles Sturt followed the Macquarie River to its meeting with the Darling River and explored part of the Castlereagh River. On his next expedition, in 1830, Sturt pieced together more of the network of waterways which make up the Murray-Darling system by following the Murrumbidgee River from Jugiong down to the river's meeting with the Murray, which he followed as far as Lake Alexandrina and Encounter Bay on the southern coastline. Three years later, Sturt completed his exploration of the Murray by investigating its upper reaches.

Meanwhile, Captain John MacArthur and others had discovered that merino sheep were naturally suited to the dry climate of the interior. The colony's wool industry flourished and, by 1831, 1,340,000 kilograms of fine wool was being exported annually. As a result of the wool boom, settlers became anxious to push further into the interior in search of new pastures.

During three expeditions between 1831 and 1836, Thomas Livingstone Mitchell explored north of the Liverpool Plains and discovered the Macintyre River; discovered well-grassed country at the junction of the Darling and Bogan Rivers; and explored the Lachlan River to its meeting with the Murrumbidgee River, the Murray to its meeting with the Darling River, and south and south-east of the Murray through the region he called 'Australia Felix' to Discovery Bay on the southern coast.

Gradually, the push south continued. In 1838, Angus McMillan discovered a practicable route from Monaro to the southern coastline, and, in 1840, Paul Edmund de Strzelecki made a journey from the Murrumbidgee River south to Melbourne, during which he discovered and named Mount Kosciusko.

Exploring the south

By the mid-to late-1830s, all south-eastern Australia up to the present Queensland border had been explored and was sparsely settled.

In 1831, Captain Collet Barker landed at what was to become Port Adelaide and, by the late 'thirties, cattle-droving journeys undertaken by Joseph Hawdon, Charles Bonney, Charles Sturt and E. J. Eyre had established links between the settlement of Adelaide and the settlements in the east.

In August 1844, Charles Sturt led a sixteen-man expedition from Adelaide into the interior with instructions to investigate a theory that there was an inland sea. After much hardship and near disaster during what was a period of exceptional heat and drought in the region, Sturt found the channels of Cooper's Creek, part of the inland river system of Queensland, dispersed among grassy plains. However, with the waters drying up rapidly in the November (1845) heat and his health deteriorating, Sturt was forced to retreat, declaring the land to be worthless.

Exploring north-eastern Australia

In 1844–45, Ludwig Leichhardt left Jimbour Station on the Darling Downs to lead an expedition on an epic 14½ month, 4 800 kilometres journey north and north-west to Port Essington, thereby winning a reputation for opening up large tracts of rich land. In 1848, however, he and his party disappeared without trace while on another expedition attempting to cross the continent to Perth. Paradoxically much valuable incidental exploration was carried out by a number of search parties.

Meanwhile, Thomas Mitchell's fourth expedition, in 1846, had failed in its objective of finding a river which flowed to the northern coast, but led to the opening up of good pastoral country in the Maranoa and Barcoo Rivers regions.

In 1848, E. B. Kennedy was speared to death by local Aboriginals while exploring the interior of Cape York Peninsula from Rockingham Bay to the Cape.

In the mid-to late-1850s, Angus C. Gregory led two expeditions: one, in 1855–56, across northern Australia in a west-east direction from the mouth of the Victoria River to the east coast at Port Curtis; and the other, in 1858, from the Barcoo River south to Adelaide.

Exploration of what was by then the new colony of Queensland was continued through the 1860s and 1870s by George Dalrymple, Ernest Henry, the Macdonald brothers, William Hann, James Venture Mulligan, R. L. Jack and others, which led to the founding of such towns as Bowen, Rockhampton and Mackay, and the opening up of much valuable farming land.

Across the continent south to north

In the late 1850s and early 1860s, most exploratory interest was concentrated on Central Australia, especially after April 1860, when John McDouall Stuart raised a Union Jack on what he considered to be the geographic centre of the continent, Central Mount Stuart. The South Australian Government offered a large reward to the first explorer to cross Australia from south to north.

In August 1860, Robert O'Hara Burke and W. J. Wills set out from Melbourne with a large party to take up the challenge. On 11 February 1861, four expedition members (Burke, Wills, John King and Charles Gray) reached a mangrove swamp on what appeared to be the coast at the Gulf of Carpentaria (though they could not see the sea). After a succession of sorry incidents, however, Burke, Wills and Gray died of exposure and starvation on the return journey.

As in the case of Leichhardt, search parties sent out after Burke and Wills discovered much valuable land in their own right: John McKinlay led an expedition from Adelaide to the north-east; William Landsborough from the Gulf of Carpentaria southward; and Frederick Walker from Rockhampton to the west.

Meanwhile, John McDouall Stuart had set out from Adelaide on his own expedition across Australia and, in July 1862, reached the sea at Van Diemen Gulf.

Exploring the west

As early as 1697, Willem de Vlamingh of the Dutch ship *Geelvinck* had carried out limited inland exploration on the west coast of Australia in the vicinity of what he named the Swan River. However, the first major inland exploration in the colony of Western Australia took place 130 years later when, in 1827, Edmund Lockyer explored the watershed of the Kalgan River to within about 60 kilometres of its mouth.

In the 1830s, exploration and settlement was mainly to the south of Perth (founded in 1829), although, as the soil grew richer, dense hardwood forests made land-clearing difficult. Among the explorers during this decade were Ensign Robert Dale, who found the rich agricultural land of the Avon Valley (1830); Lieutenant H. W. Bunbury, who opened the way to rich pastoral flats in the south-west (1836); and Captain George Grey, who discovered the rich hinterland that now serves Geraldton (1839).

During the 1840s, J. S. Roe, who had also conducted several exploratory journeys during the 1830s, discovered good grazing country while on a 2,900 kilometres York-Pallinup River-Russell Range-Bunbury-Perth trek (1848).

In the 1850s and 1860s, the south-west was extensively occupied as far south as Albany and Kojonup, while to the north the Greenough district quickly became the principal wheat-producing region.

Due largely to the efforts of Grey in the 1830s, the Gregory brothers in the 1840s, 1850s and 1860s, and the Forrest brothers in the 1860s and 1870s, pastoralists were able gradually to push further north to occupy the Murchison, Gascoyne and De Grey districts. By the 1880s, again due largely to exploration by the Forrest brothers, even the Kimberley region was being settled.

Meanwhile, journeys to, or in, the east and south-east of Western Australia by E. J. Eyre (1841), E. A. Delisser (1861), John Forrest (1870) and others had gradually filled in many 'blanks' in those directions also.

Exploring the hinterland

In 1875, Ernest Giles set out from Beltana, South Australia, and made a 4,000 kilometre journey to Perth. Two years previous, two other parties, led by Peter Egerton Warburton and W. C. Gosse respectively, had explored west from the MacDonnell Ranges to the Oakover River, and from Alice Springs to Perth.

Exploration of the hinterland was continued by W. P. Goddard (1890), J. H. Rowe (1895), A. W. Canning (1906) and others into the early twentieth century.

Exploring Tasmania

In 1793, Lieutenant John Hayes, commander of the *Duke of Clarence*, sailed up the Derwent River to become the first explorer to journey more than a few kilometres inland from the coast of Van Diemen's Land (by which name Tasmania was know until 1856). Then, as always, the island's rugged topography hindered any extensive exploration, and it was not until 1807 that Lieutenant Thomas Laycock crossed the island from Port Dalrymple to Hobart.

Much early exploration was carred out either with the encouragement of Lieutenant-Governor William Sorell (including expeditions aimed primarily at discovering the nature of the west coast and determining its suitability for a future penal settlement), or under the auspices of the Van Diemen's Land Company (which fostered efforts to find land suitable for agricultural settlement).

Some of the most noteworthy of Tasmania's early explorers were official surveyors, including John Oxley, G. W. Evans and Thomas Scott who, between 1820 and 1837, examined parts of the east, north-west and west coasts and, no doubt, influenced decisions to establish the infamous penal settlements at Macquarie Harbour (in 1822) and Port Arthur (in 1830).

Between the late 1820s and early 1840s a considerable amount of incidental exploration resulted both from expeditions to round up the remaining Tasmanian Aboriginals following the declaration of martial law against them in 1828; and from the personal encouragement by Lieutenant-Governor Sir John Franklin of scientific expeditions to Tasmania in the late 1830s and early 1840s.

In the 1840s and 1850s, licensed surveyor N. L. Kentish was responsible for opening up the rich pastoral areas between the north-west coast and the first high mountains, while Assistant-Surveyor James Scott explored much of the north-east.

The 1860s and 1870s were marked by a number of exploratory journeys in search of minerals, including those of Charles Gould (1862), who found traces of silver, lead and gold in the Franklin and Gordon valleys; James Smith (1871), who discovered tin at Mt. Bischoff, destined to become the richest mine of its kind in the world; and C. P. Sprent (1876–77), who found gold, copper, osmiridium and platinum while prospecting between the Arthur and Pieman Rivers.

The establishment of the Commonwealth of Australia

Federation

On 1 January 1901, the colonies, with the exception of New Zealand (*see* Year Book No. 63, page 5), were federated under the name of the 'Commonwealth of Australia', the designation of 'Colonies'—except in the case of the Northern Territory, to which the designation 'Territory' applied—being at the same time changed to that of 'States'.

Transfer of the Northern Territory to the Commonwealth

On 7 December 1907, the Commonwealth and the State of South Australia entered into an agreement for the transfer of the Northern Territory to the Commonwealth, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under the Northern Territory Surrender Act, 1907 and by the Commonwealth Parliament under the *Northern Territory Acceptance Act* 1910. The Territory was formally transferred to the Commonwealth on 1 January 1911, and became the Northern Territory of Australia.

By Imperial Order in Council dated 23 July 1931, Ashmore Islands, known as Middle, East and West Islands, and Cartier Island, situated in the Indian Ocean off the north-west coast of Australia, were placed under the authority of the Commonwealth. The islands were accepted by the Commonwealth on 10 May 1934, in the *Ashmore and Cartier Islands Acceptance Act* 1933, under the name of the Territory of Ashmore and Cartier Islands. The Act authorised the Governor of Western Australia to make ordinances having the force of law in and in relation to the Territory. An amendment to the Act in July 1938 annexed the islands to the Northern Territory, whose laws, ordinances, and regulations, wherever applicable, thereupon applied. On the attainment of self-government by the Northern Territory on 1 July 1978, the Territory of Ashmore and Cartier Islands was retained as Commonwealth Territory.

The area of Ashmore Reef is approximately 150 square kilometres (to the limit of the reef), and it is situated 350 kilometres off the western coast of Australia and 850 kilometres west of Darwin. Cartier Island is approximately 9 square kilometres in area (to the limit of the reef), and is situated 290 kilometres off the western coast of Australia and 790 kilometres west of Darwin.

Transfer of the Australian Capital Territory to the Commonwealth

On 18 October 1909, the Commonwealth and the State of New South Wales entered into an agreement for the surrender to and acceptance by the Commonwealth of an area of 2,359 square kilometres as the Seat of Government of the Commonwealth. In December 1909, Acts were passed by the Commonwealth and New South Wales Parliaments approving the agreement, and on 5 December 1910 a proclamation was issued vesting the territory in the Commonwealth on and from 1 January 1911. By the *Jervis Bay Territory Acceptance Act* 1915, an area of 73 square kilometres at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was accepted by the Commonwealth and was transferred as from 4 September 1915.

Present composition of Australia

In 1973, the total area of Australia and of the individual States and Territories was determined by the Division of National Mapping as 7,682,300 square kilometres. Some historical dates and the present areas of the several States and Territories and of Australia are shown below. For detailed notes on the creation of the several colonies, *see* Year Book No. 63, pages 4–5.

AUSTRALIA: COMPONENT STATES AND TERRITORIES

State or Territory	*Year of annexation*	*Year of first permanent settlement*	*Year of formation into separate Colony or Territory*	*Year in which responsible government was granted*	*Present area in km²*
New South Wales	1770	1788	1786	1855	801,600
Victoria	1770	1834	1851	1855	227,600
Queensland	1770	1824	1859	(*a*)1859	1,727,200
South Australia	1788	1836	1834	1856	984,000
Western Australia	1829	1829	1829	1890	2,525,000
Tasmania	1788	1803	1825	1855	67,800
Northern Territory	..	..	(*b*)1863	..	1,346,200
Australian Capital Territory	..	..	(*c*)1911	..	2,400
Australia	..	..	..	(*d*)	**7,682,300**

(*a*) As part of New South Wales in 1855; as a separate colony in 1859. (*b*) Previously part of New South Wales; brought under the jurisdiction of South Australia in 1863; transferred to the Commonwealth in 1911. (*c*) Previously part of New South Wales. (*d*) Constituted as from 1 January 1901.

The external Territories of Australia

More detailed information on Australia's external Territories can be found in Chapter 27, The Territories of Australia.

Norfolk Island

In 1856, Norfolk Island was created a distinct and separate settlement under the jurisdiction of New South Wales. Later, in 1896, it was made a dependency under the Governor of that colony, and finally, by the passage of the *Norfolk Island Act* 1913, it was accepted as a Territory of the Commonwealth of Australia. The island is situated in latitude 29° 02′ S., longitude 167° 57′ E., and comprises an area approximately 36 square kilometres.

Australian Antarctic Territory

An Imperial Order in Council of 7 February 1933 placed under Australian authority 'all the islands and territories other than Adelie Land which are situated south of the 60° S. latitude and lying between the 160° E. longitude and the 45° E. longitude'.

The Order came into force with a proclamation issued by the Governor-General on 24 August 1936, after the passing of the *Australian Antarctic Territory Acceptance Act* 1933 by the Commonwealth Parliament. The boundaries of Adelie Land were definitely fixed by a French Decree of 1 April 1938 as latitude 60° S., longitude 136° E., and longitude 142° E.

Heard and McDonald Islands

Heard Island and the McDonald Islands, all about 4,100 kilometres south-west of Fremantle, were transferred from United Kingdom to Australian control as from 26 December 1947. Heard Island is approximately 43 kilometres long and 20 kilometres wide, while the McDonald Islands, about 43 kilometres to the west of Heard Island, are small, rocky and precipitous.

Cocos (Keeling) Islands

The *Cocos* (*Keeling*) *Islands Act* 1955 provided for the acceptance of the Cocos Islands as a Territory under the authority of the Commonwealth of Australia and was parallel to an Act of the United Kingdom Parliament transferring authority over the islands to the Commonwealth. Consequent on the passing of these Acts, Her Majesty, by Order in Council, specified 23 November 1955 as the date of transfer. From that date the islands came under Australian administration. Day to day affairs in the Territory are managed by an Administrator under delegation from the Minister for Home Affairs. The 27 coral islands of the Territory have an area of about 14 square kilometres, and are situated in the Indian Ocean in latitude 12°05′ S. and longitude 96° 53′ E.

Christmas Island

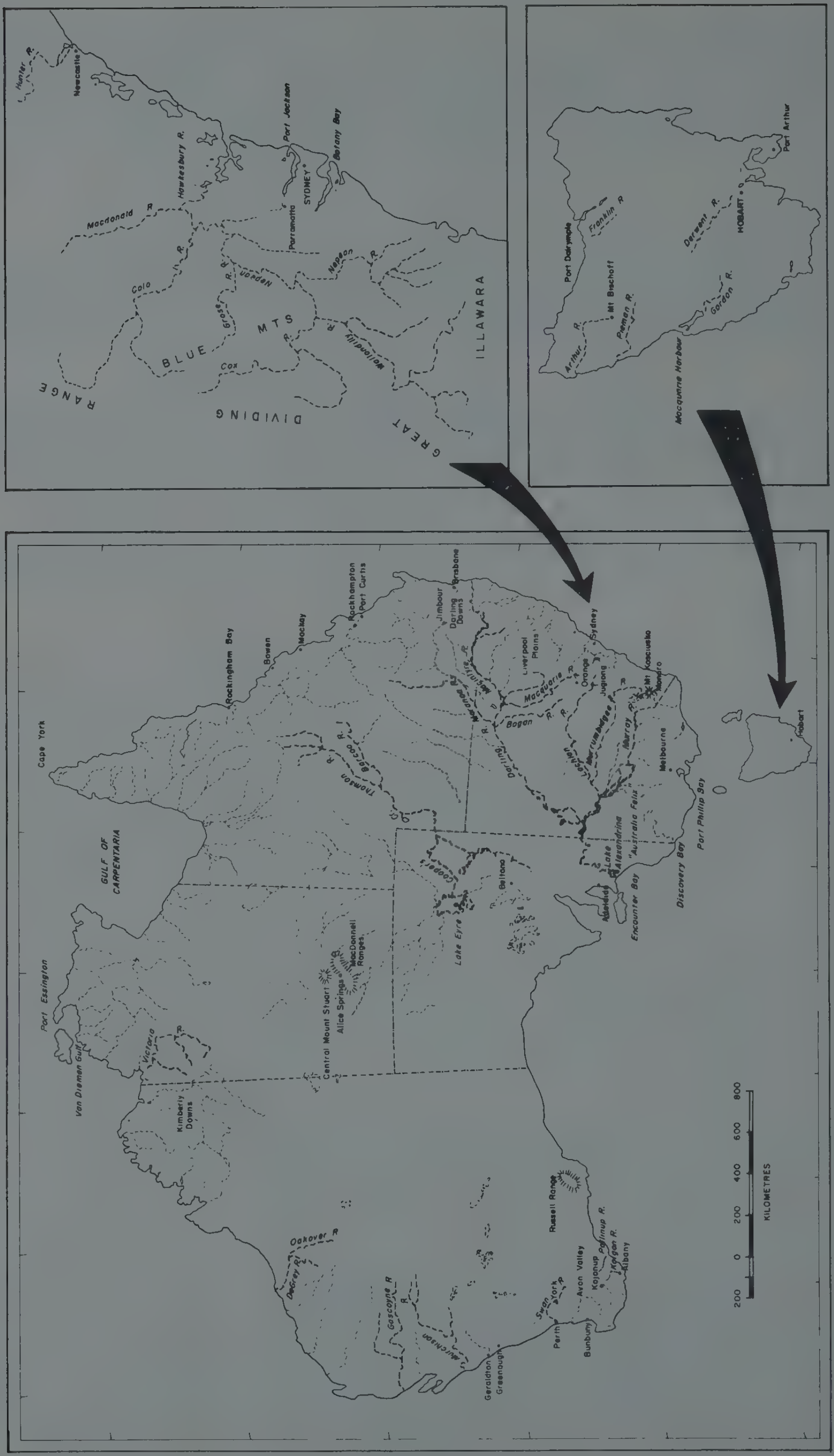
The *Christmas Island Act* 1958 provided for the acceptance of Christmas Island as a Territory under the authority of the Commonwealth of Australia. Complementary legislation having been passed by the Parliament of the United Kingdom, the island was transferred to the Australian administration on 1 October 1958. Day to day affairs in the Territory are managed by an Administrator under delegation from the Minister for Home Affairs. The area of the island is about 135 square kilometres and it is situated in the Indian Ocean in latitude 10° 25′ S. and longitude 105° 40′ E.

Coral Sea Islands

The Coral Sea Islands were declared to be a Territory of the Commonwealth of Australia by the *Coral Sea Islands Act* 1969. The scattered reefs and islands, often little more than sandbanks, spread over a sea area of about 1 million square kilometres with only a few square kilometres of actual land area, between the Great Barrier Reef, latitude 12° S. and longitude 157° 10′ E. The Minister for Home Affairs is responsible for matters affecting the Territory.

The Constitution of the Commonwealth of Australia

Information regarding the development of the Constitutions of the various Colonies (now States), together with a brief history of the federal movement in Australia, was embodied in this chapter in earlier issues of the Year Book. A complete copy of the revised Constitution is included in Year Book No. 62, pages 7–24.


Hunter R.
Newcastle
Hawkesbury R.
Macdonald R.
Port Jackson
Botany Bay
SYDNEY
Parramatta
Colo R.
Grose R.
Nepean R.
BLUE MTS
Cox R.
Wollondilly R.
ILLAWARA
GREAT DIVIDING RANGE
Port Dalrymple
Franklin R.
Derwent R.
HOBART
Port Arthur
Mt Bischoff
Pieman R.
Arthur R.
Gordon R.
Macquarie Harbour
Cape York
GULF OF CARPENTARIA
Rockingham Bay
Bowen
Mackay
Rockhampton
Port Curtis
Jimbour
Darling Downs
Brisbane
Liverpool Plains
Sydney
Orange
Macquarie R.
Bogan R.
Darling R.
Lachlan R.
Murrumbidgee R.
Murray R.
Jugiong
Mt Kosciusko
Monaro
Melbourne
Port Phillip Bay
Hobart
"Australia Felix"
Lake Alexandrina
Adelaide
Encounter Bay
Discovery Bay
Cooper's Ck
Beltana
Lake Eyre
Thomson R.
Barcoo R.
Central Mount Stuart
Alice Springs
MacDonnell Ranges
Port Essington
Van Diemen Gulf
Victoria R.
Kimberley Downs
Oakover R.
DeGrey R.
Gascoyne R.
Murchison R.
Geraldton
Greenough
Perth
Swan R.
York
Avon Valley
Bunbury
Kojonup
Pallinup R.
Kalgan R.
Albany
Russell Range
200 0 200 400 600 800
KILOMETRES

These maps show the locations of places and landforms referred to in the accompanying notes on the exploration of Australia.

PLATE 2

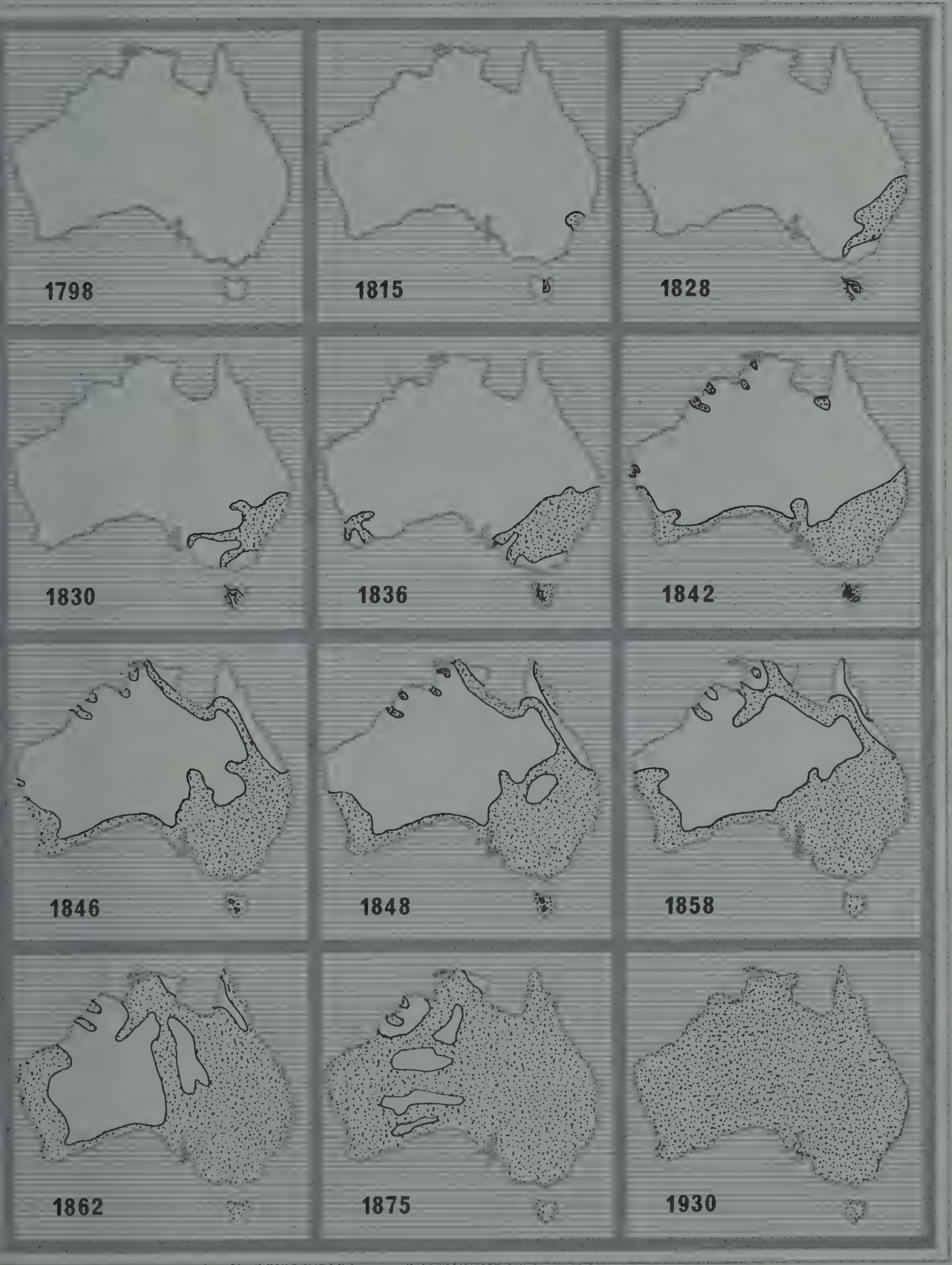
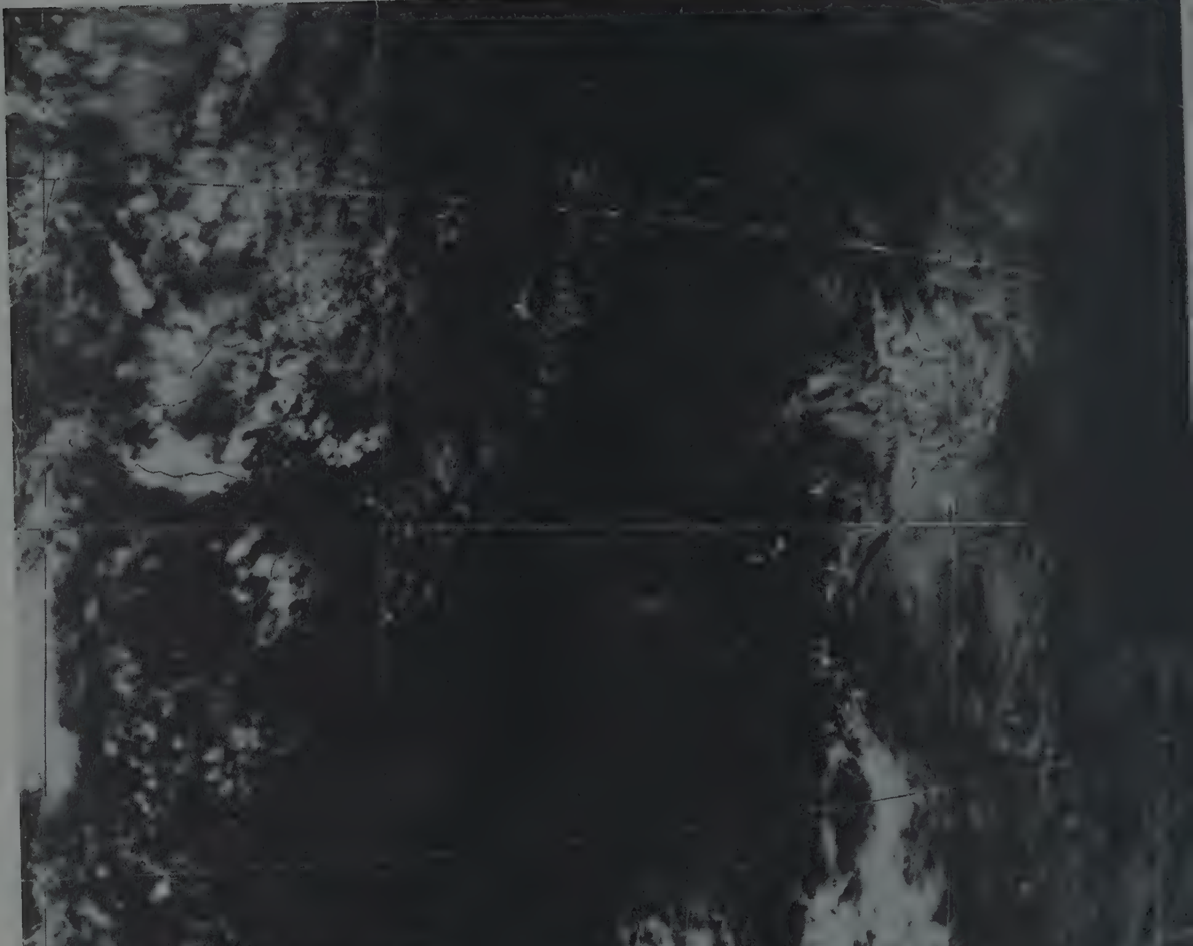

1798
1815
1828
1830
1836
1842
1846
1848
1858
1862
1875
1930

PLATE 3

CHAPTER 2

CLIMATE AND PHYSICAL GEOGRAPHY OF AUSTRALIA



CHAPTER 2

CLIMATE AND PHYSICAL GEOGRAPHY OF AUSTRALIA

General description of Australia

This chapter has been prepared by the Bureau of Meteorology, Department of Science and the Environment. It is mainly concerned with the climate of Australia, although some geographic comparisons and a summary of landform features influencing climate have been included together with a summary of atmospheric climate controls.

Position and area

Position. Australia, including Tasmania, comprises a land area of 7,682,300 square kilometres. The land lies between latitudes 10° 41′S. (Cape York) and 43° 39′S. (South Cape, Tasmania) and between longitudes 113° 09′E. (Steep Point) and 153° 39′E. (Cape Byron). The most southerly point on the mainland is South Point (Wilson's Promontory) 39° 08′S. The latitudinal distance between Cape York and South Point, Wilson's Promontory (South East Cape, Tasmania) is about 3,180 kilometres (3,680 kilometres) respectively and the longitudinal distance between Steep Point and Cape Byron is about 4,000 kilometres.

Area of Australia compared with areas of other countries. The area of Australia is almost as great as that of the United States of America (excluding Alaska), about 50 per cent greater than Europe (excluding U.S.S.R.) and 32 times greater than the United Kingdom. The following table shows the area of Australia in relation to areas of other continents and selected countries.

AREAS OF CONTINENTS AND SELECTED COUNTRIES, *circa* 1970

('000 square kilometres)

Country	*Area*	*Country*	*Area*
Continental divisions—		Country—	
Europe (*a*)	4,936	Australia	7,682
Asia (*a*)	27,532	Canada	9,976
U.S.S.R. (Europe and Asia)	22,402	Germany, Federal Republic of	248
Africa	30,319	Japan	372
North and Central America and West Indies	24,247	New Guinea (*b*)	462
		New Zealand	269
South America	17,834	United Kingdom	244
Oceania	8,504	United States of America (*c*)	9,363
Total, World excluding Arctic and Antarctic continents	**135,771**		

(*a*) Excludes U.S.S.R., shown below. (*b*) West Irian is included in other Asia. (*c*) Includes Hawaii and Alaska.

Land forms

The average altitude of the surface of the Australian land mass is only about 300 metres. Approximately 87 per cent of the total land mass is less than 500 metres and 99.5 per cent is less than 1,000 metres. The highest point is Mount Kosciusko (2,228 metres) and the lowest point is Lake Eyre (−15 metres).

Australia has three major landform features: the western plateau, the interior lowlands and the eastern uplands. The western half of the continent consists of a great plateau of altitude 300 to 600 metres. The interior lowlands include the channel country of southwest Queensland (drainage to Lake Eyre) and the Murray-Darling system to the south. The eastern uplands consist of a broad belt of varied width extending from north Queensland to Tasmania and consisting largely of tablelands, ranges and ridges with only limited mountain areas above 1,000 metres.

The rivers of Australia may be divided into two major classes, those of the coastal plains with moderate rates of fall and those of the central plains with very slight fall. Of the rivers of the northern part of the east coast, the longest are the Burdekin and the Fitzroy in Queensland. The Hunter is the largest coastal river of New South Wales, and the Murray River, with its great tributary the Darling, drains part of Queensland, the major part of New South Wales, and a large part of Victoria, finally flowing into the arm of the sea known as Lake Alexandrina, on the eastern side of the South Australian coast. The total length of the Murray is about 2,520 kilometres, about 650 being in South Australia and about 1,870 kilometres from South Australia to the source. The Darling from its junction with the Murray to its junction with the Culgoa is 1,390 kilometres. The Upper Darling (1,140 kilometres) incorporates the Barwon which commences at the junction of the Culgoa to its junction with the Weir River and the Macintyre River from its junction with the Weir to its source near Maybole. The rivers of the north-west coast of Australia (Western Australia) e.g. the Murchison, Gascoyne, Ashburton, Fortescue, De Grey, Fitzroy, Drysdale, and Ord are of considerable size. So also are those in the Northern Territory, e.g. the Victoria and Daly, and those on the Queensland side of the Gulf of Carpentaria, such as the Gregory, Leichhardt, Cloncurry, Gilbert, and Mitchell. The rivers of Tasmania have short and rapid courses, as might be expected from the configuration of the country.

The 'lakes' of Australia may be divided into three classes; true permanent lakes; lakes which being very shallow, become mere morasses in dry seasons or even dry up, and finally present a cracked surface of salt and dry mud; and lakes which are really inlets of the ocean, opening into a lake-like expanse. The second class, which are a characteristic of the interior lowlands are of considerable extent. The largest are Lake Eyre 9,500 square kilometres, Lake Torrens 5,900 square kilometres and Lake Gairdner 4,300 square kilometres.

For further information on the landforms and the geographical features of Australia earlier issues of the Year Book should be consulted. The list of special articles, etc., at the end of this volume indicates the nature of the information available and its position in the various issues.

Area, coastline, tropical and temperate zones, and standard times. The areas of the States and Territories and the length of the coastline were determined in 1973, by the Division of National Mapping, Department of National Resources, by manually digitising these features from the 1:250,000 map series of Australia. This means that only features of measurable size at this scale were considered. About 60,000 points were digitised at an approximate spacing of 0.5 kilometres. These points were joined by chords as the basis for calculation of areas and coastline lengths by computer.

The approximate high water mark coastline was digitised and included all bays, ports and estuaries which are open to the sea. In these cases, the shoreline was assumed to be where the seaward boundary of the title of ownership would be. In mangroves, the shoreline was assumed to be on the landward side. Rivers were considered in a similar manner but the decisions were rather more subjective, the line being across the river where it appeared to take its true form.

AREA, COASTLINE, TROPICAL AND TEMPERATE ZONES, AND STANDARD TIMES: AUSTRALIA

NOTE. *See* paragraphs above for methods of estimating area and coastline.

	Estimated area			*Percentage of total area in*		*Standard times*	
State or Territory	*Total*	*Percentage of total area*	*Length of coastline*	*Tropical zone*	*Temperate zone*	*Meridian selected*	*Ahead of G.M.T. (a)*
	km^2		km				hours
New South Wales	801,600	10.43	1,900	..	100	150°E	(*b*)10.0
Victoria	227,600	2.96	1,800	..	100	150°E	(*b*)10.0
Queensland	1,727,200	22.48	7,400	54	46	150°E	10.0
South Australia	984,000	12.81	3,700	..	100	142°30'E	(*b*)9.5
Western Australia	2,525,500	32.87	12,500	37	63	120°E	8.0
Tasmania	67,800	0.88	3,200	..	100	150°E	(*b*)10.0
Northern Territory	1,346,200	17.52	6,200	81	19	142°30'E	9.5
Australian Capital Territory	2,400	0.03	35	..	100	150°E	(*b*)10.0
Australia	**7,682,300**	**100.00**	**36,735**	**39**	**61**	..	..

(*a*) Greenwich Mean Time. (*b*) Because of 'daylight saving' an hour should be added from late October to early March.

Climate of Australia

General

The following information has been prepared by the Bureau of Meteorology, Department of Science. Previously, this chapter of the Year Book also included information about the physical geography of Australia. The information appeared most recently in Year Book No. 61 of 1975–76.

The climate of Australia is predominantly continental but the insular nature of the land mass is significant in producing modification of the continental pattern.

The island continent of Australia is relatively dry with 50 per cent of the area having a median rainfall of less than 300 millimetres per year and 80 per cent less than 600 millimetres. Extreme minimum temperatures are not as low as those recorded in other continents because of the absence of extensive mountain masses and because of the expanse of ocean to the south. However, extreme maxima are comparatively high, reaching 50°C over the inland, mainly due to the great east-west extent of the continent in the vicinity of the Tropic of Capricorn.

Climatic discomfort, particularly heat discomfort, is significant over most of Australia. During summer, prolonged high temperatures and humidity around the northern coasts and high temperatures over the inland cause physical discomfort. In winter, low temperatures and strong cold winds over the interior and southern areas can be severe for relatively short periods.

Climatic controls

The generally low relief of Australia causes little obstruction to the atmospheric systems which control the climate. A notable exception is the eastern uplands which modify the atmospheric flow.

In the winter half of the year (May–October) anticyclones, or high pressure systems, pass from west to east across the continent and often remain almost stationary over the interior for several days. These anticyclones may extend to 4,000 kilometres along their west-east axes. Northern Australia is then influenced by mild, dry south-east trade winds, and southern Australia experiences cool, moist westerly winds. The westerlies and the frontal systems associated with extensive depressions travelling over the Southern Ocean have a controlling influence on the climate of southern Australia during the winter season, causing rainy periods. Cold outbreaks, particularly in south-east Australia occur when cold air of Southern Ocean origin is directed northwards by intense depressions having diameters up to 2,000 kilometres. Cold fronts associated with the southern depressions, or with secondary depressions over the Tasman Sea, may produce large day-to-day changes in temperature in southern areas, particularly in south-east coastal regions.

In the summer half of the year (November–April) the anticyclones travel from west to east on a more southerly track across the southern fringes of Australia directing easterly winds generally over the continent. Fine, warmer weather predominates in southern Australia with the passage of each anticyclone. Heat waves occur when there is an interruption to the eastward progression of the anticyclone (blocking) and winds back northerly and later north-westerly. Northern Australia comes under the influence of summer disturbances associated with the southward intrusion of warm moist monsoonal air from north of the inter-tropical covergence zone resulting in a hot rainy season.

Tropical cyclones develop over the seas to the north-west and the north-east of Australia in summer between November and April. Their frequency of occurrence and the tracks they follow vary greatly from season to season. On the average, about three Coral Sea cyclones per season directly affect the Queensland coast, and about two Indian Ocean cyclones affect the north-western coast. Tropical cyclones approaching the coast usually produce very heavy rain in coastal areas. Some cyclones move inland, losing intensity but still producing widespread heavy rainfall. Individual cyclonic systems may control the weather over northern Australia for periods extending to three weeks.

Rainfall

Annual. The annual 10, 50 and 90 percentile* rainfall maps are shown on Plates 4–6 respectively. The area of lowest rainfall is east of Lake Eyre in South Australia, where the median (50 percentile) rainfall is only about 100 millimetres. Murnpeowie, with 70 years of record, has a median annual rainfall of 101 millimetres. Another very low rainfall area is in Western Australia in the Giles-Warburton Range region, which has a median annual rainfall of about 150 millimetres. A vast region extending from the west coast near Shark Bay across the interior of Western Australia and South Australia to south-west Queensland and north-west New South Wales has a median annual rainfall of less than 200 millimetres. This region is not normally exposed to moist air masses for extended periods and rainfall is irregular, averaging only one or two days per month. However, in favourable synoptic situations, which occur infrequently over extensive parts of the region, up to 400 millimetres of rain may fall within a few days and result in widespread flooding.

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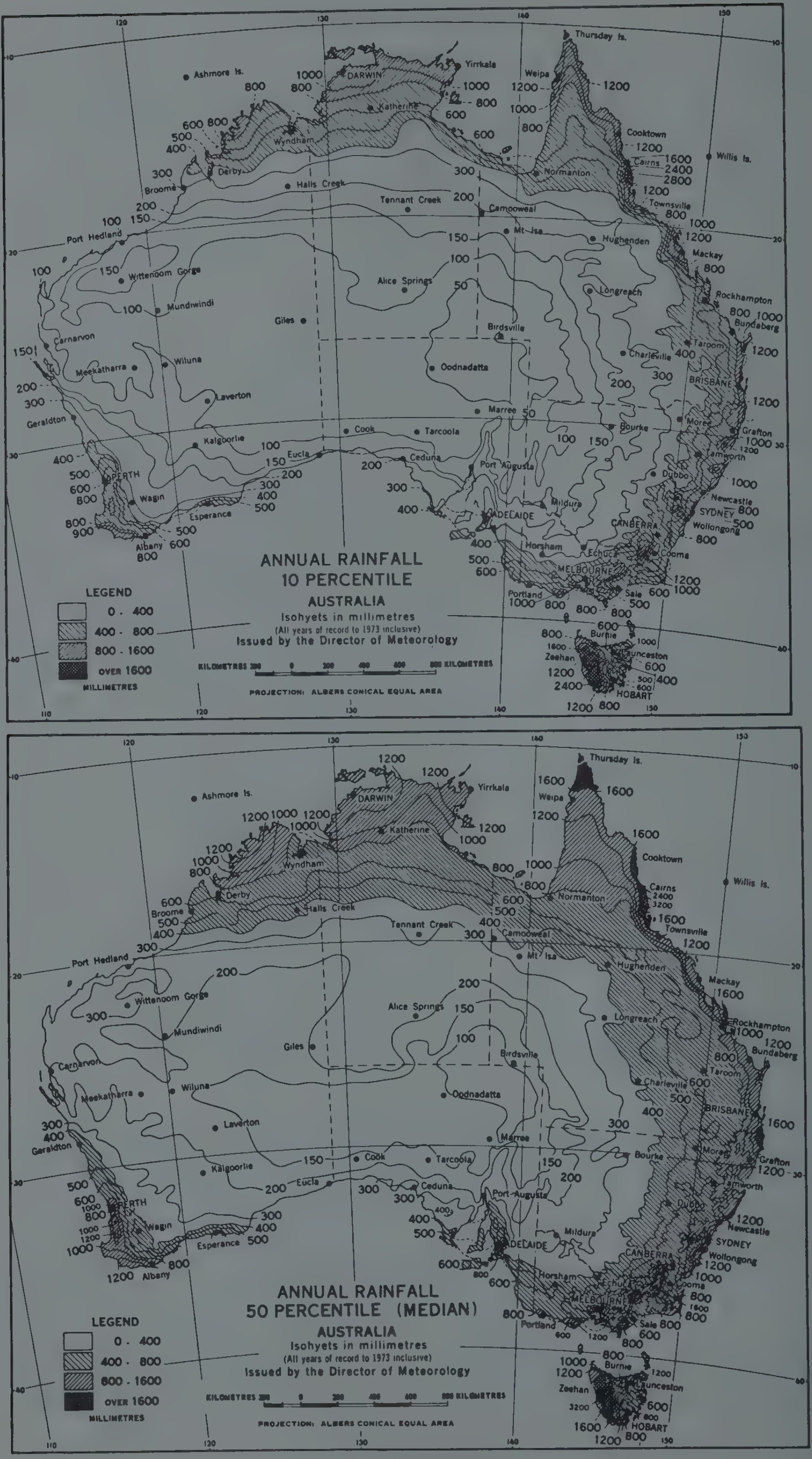
* The amounts that are not exceeded by 10, 50 and 90 per cent of all recordings are the 10, 50 and 90 percentiles or the first, fifth and ninth deciles respectively. The 50 percentile is usually called the median.


ANNUAL RAINFALL
10 PERCENTILE
AUSTRALIA
Isohyets in millimetres
(All years of record to 1973 inclusive)
Issued by the Director of Meteorology
LEGEND
0 - 400
400 - 800
800 - 1600
OVER 1600
MILLIMETRES
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is.
DARWIN
Yirrkala
Weipa
Katherine
Wyndham
Cooktown
Willis Is.
Cairns
Normanton
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Mt Isa
Hughenden
Port Hedland
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Bundaberg
Giles
Birdsville
Taroom
Carnarvon
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Moree
Grafton
Kalgoorlie
Cook
Tarcoola
Bourke
Tamworth
Eucla
Ceduna
Port Augusta
PERTH
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
Wollongong
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
ANNUAL RAINFALL
50 PERCENTILE (MEDIAN)
AUSTRALIA
Isohyets in millimetres
(All years of record to 1973 inclusive)
Issued by the Director of Meteorology
LEGEND
0 - 400
400 - 800
800 - 1600
OVER 1600
MILLIMETRES
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA

PLATES 4 and 5

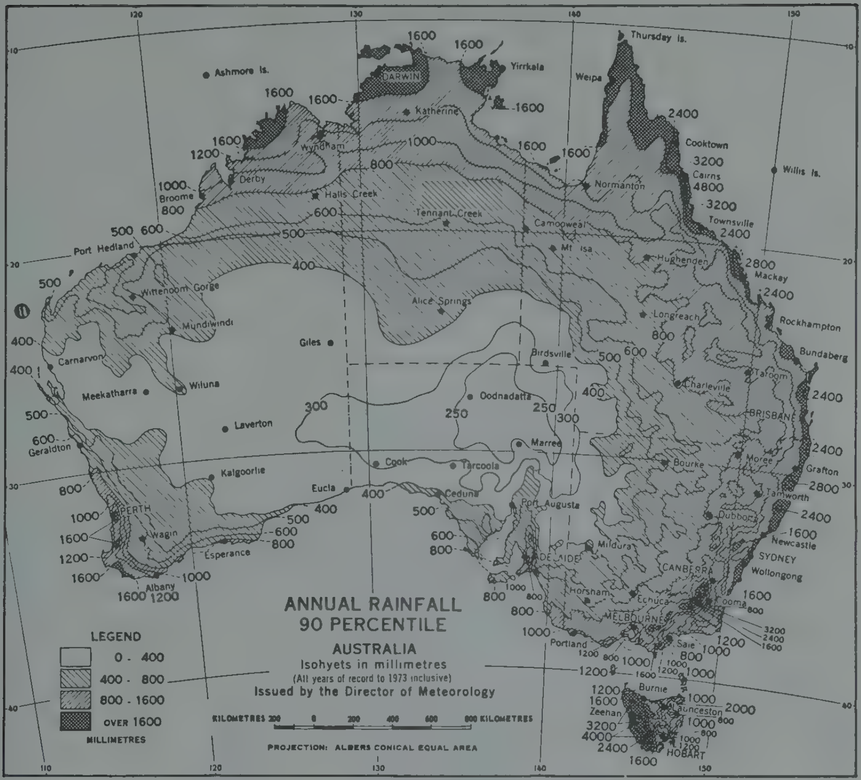

ANNUAL RAINFALL
90 PERCENTILE
AUSTRALIA
Isohyets in millimetres
(All years of record to 1973 inclusive)
Issued by the Director of Meteorology
LEGEND
0 - 400
400 - 800
800 - 1600
OVER 1600
MILLIMETRES
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is.
DARWIN
Yirrkala
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Port Hedland
Wittenoom Gorge
Mundiwindi
Carnarvon
Meekatharra
Wiluna
Geraldton
Giles
Laverton
Alice Springs
Kalgoorlie
PERTH
Wagin
Esperance
Albany
Eucla
Cook
Tarcoola
Ceduna
Oodnadatta
Marree
Birdsville
Port Augusta
ADELAIDE
Mildura
Horsham
Portland
Echuca
MELBOURNE
Sale
Burnie
Zeehan
Launceston
HOBART
Thursday Is.
Weipa
Cooktown
Cairns
Townsville
Willis Is.
Normanton
Camooweal
Mt Isa
Hughenden
Mackay
Longreach
Rockhampton
Bundaberg
Taroom
Charleville
BRISBANE
Bourke
Moree
Grafton
Tamworth
Dubbo
Newcastle
SYDNEY
Wollongong
CANBERRA
Cooma

PLATE 6

The region with the highest median annual rainfall is the east coast of Queensland between Cairns and Cardwell, where Tully's median is highest (4,400 millimetres). The mountainous region of western Tasmania also has a high annual rainfall, with 3,600 millimetres at Lake Margaret. In the mountainous areas of north-east Victoria and some parts of the east coastal slopes there are small pockets with median annual rainfall greater than 2,500 millimetres, but the map scale is too small for these to be shown.

The Snowy Mountains area in New South Wales also has a particularly high rainfall. The highest median annual rainfall isohyet drawn for this region is 3,200 millimetres, and it is likely that small areas have a median annual rainfall approaching 4,000 millimetres on the western slopes above 2,000 metres elevation.

The following table shows the area distribution of the median annual rainfall derived from the map in Plate 5, page 18.

AREA DISTRIBUTION OF MEDIAN ANNUAL RAINFALL: AUSTRALIA

(Per cent)

Median annual rainfall	*W.A.*	*N.T.*	*S.A.*	*Qld*	*N.S.W.(a)*	*Vic.*	*Tas.*	*Aust.*
Under 200 mm . . .	43.5	15.5	74.2	10.2	8.0	..	..	29.6
200 to 300 mm . .	29.6	35.6	13.5	13.0	20.3	6.3	..	22.9
300 ,, 400 ,, . .	10.5	9.0	6.8	12.3	19.0	19.2	..	11.2
400 ,, 500 ,, . .	4.3	6.6	3.2	13.5	12.4	11.8	..	7.6
500 ,, 600 ,, . .	3.1	5.8	1.8	11.6	11.3	14.1	12.2	6.6
600 ,, 800 ,, . . .	4.6	11.6	0.5	20.5	15.1	24.5	18.2	10.7
800 ,, 1,200 ,, . . .	3.7	9.6	..	12.6	11.3	17.7	25.0	7.7
Above 1,200 ,, . .	0.7	6.3	..	6.3	2.6	6.4	44.6	3.7
Total . . .	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(*a*) Includes Australian Capital Territory.

Seasonal. As outlined under the heading of Climatic controls, the rainfall pattern is strongly seasonal in character with a winter rainfall regime in the south and a summer regime in the north.

The dominance of rainfall over other climatic elements in determining the growth of specific plants in Australia has led to the development of a climatic classification based on two main parameters. These parameters are median annual rainfall and seasonal rainfall incidence. Plate 7, below, is a simplified version of the seasonal rainfall zones arising from this classification (*see* Bureau of Meteorology publication *Climatic Atlas of Australia, Map Set 5, Rainfall,* 1977).

Evaporation and the concept of rainfall effectiveness are taken into account to some extent in this classification by assigning higher median annual rainfall limits to the summer zones than the corresponding uniform and winter zones. The main features of the seasonal rainfall are:

(*a*) marked wet summer and dry winter of northern Australia;

(*b*) wet summer and relatively dry winter of south-eastern Queensland and north-eastern New South Wales;

(*c*) uniform rainfall in south-eastern Australia—much of New South Wales, parts of eastern Victoria and in southern Tasmania;

(*d*) marked wet winter and dry summer of south-west Western Australia and (to a lesser extent) of much of the remainder of southern Australia directly influenced by westerly circulation;

(*e*) arid area comprising about half of the continent extending from the north-west coast of Western Australia across the interior and reaching the south coast at the head of the Great Australian Bight.

Variability. The adequate presentation of rainfall variability over an extensive geographical area is difficult. Probably the best measures are found in tables compiled for a number of individual stations in some of the Climatic Survey districts. These tables show the percentage chances of receiving specified amounts of rainfall in monthly, seasonal or annual time spans. Statistical indexes of rainfall variation based on several techniques have been used to compile maps showing main features of the variability of annual rainfall over Australia.

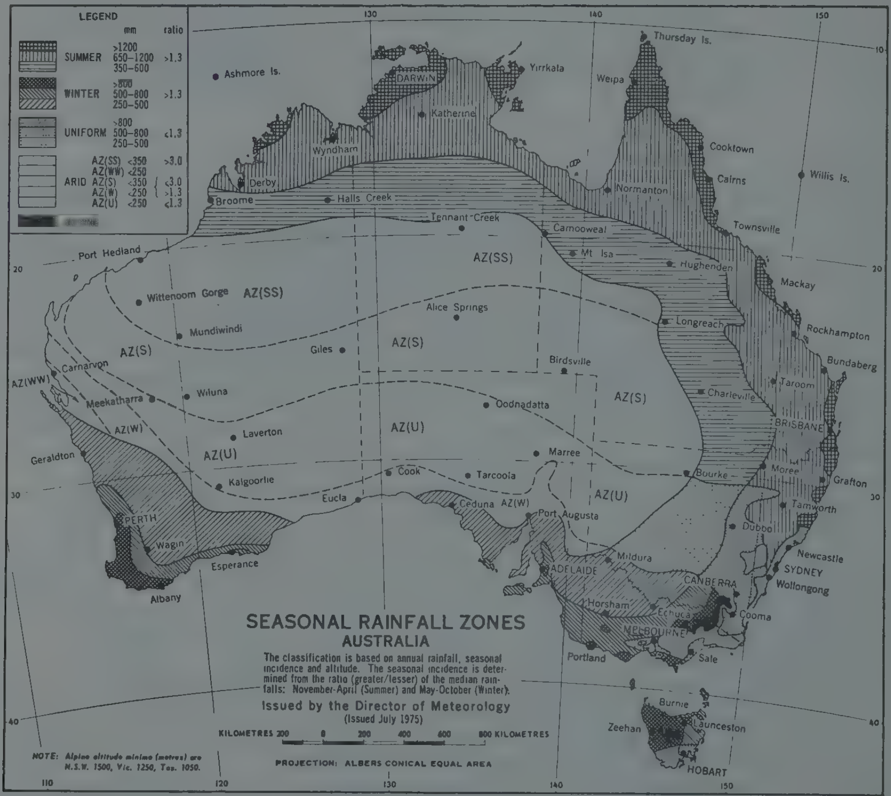

LEGEND
mm ratio
SUMMER >1200 650–1200 350–600 >1.3
WINTER >800 500–800 250–500 >1.3
UNIFORM >800 500–800 250–500 <1.3
ARID
AZ(SS) <350 >3.0
AZ(WW) <250
AZ(S) <350 <3.0
AZ(W) <250 >1.3
AZ(U) <250 <1.3
SEASONAL RAINFALL ZONES
AUSTRALIA
The classification is based on annual rainfall, seasonal incidence and altitude. The seasonal incidence is determined from the ratio (greater/lesser) of the median rainfalls: November-April (Summer) and May-October (Winter).
Issued by the Director of Meteorology
(Issued July 1975)
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
NOTE: Alpine altitude minima (metres) are N.S.W. 1500, Vic. 1250, Tas. 1050.
110
120
130
140
150
10
20
30
40
Ashmore Is.
DARWIN
Katherine
Yirrkala
Weipa
Thursday Is.
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Normanton
Cooktown
Cairns
Willis Is.
Townsville
Camooweal
Mt Isa
Hughenden
Mackay
Port Hedland
Wittenoom Gorge
AZ(SS)
Mundiwindi
Alice Springs
Longreach
Rockhampton
Giles
AZ(S)
Carnarvon
AZ(WW)
Birdsville
Bundaberg
Taroom
Wiluna
Meekatharra
Oodnadatta
Charleville
BRISBANE
AZ(W)
Laverton
AZ(U)
Marree
Geraldton
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Port Augusta
Tamworth
PERTH
Dubbo
Wagin
Esperance
Mildura
ADELAIDE
Newcastle
SYDNEY
Wollongong
CANBERRA
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART

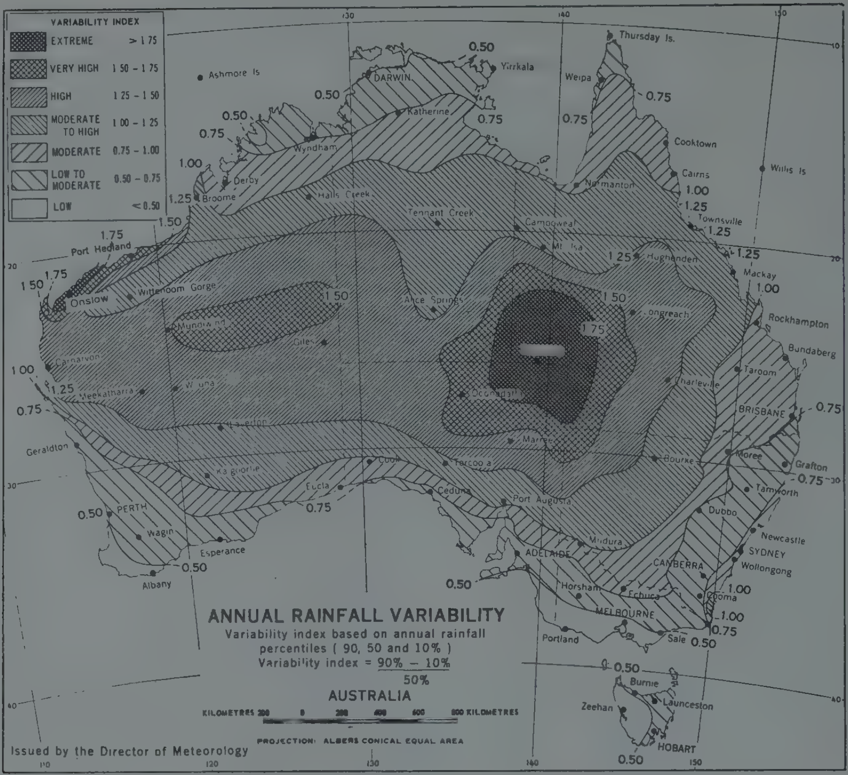
PLATE 7

One index for assessing the variability of annual rainfall is given by the ratio of the 90–10 percentile range to the 50 percentile (median value) i.e. Variability Index = $\left\{\frac{90-10}{50}\right\}$ percentiles. Variability based on this relationship (Gaffney 1975) is shown in Plate 8, page 22. The region of high to extreme variability shown in Plate 8, lies mostly in the arid zone with summer rainfall incidence, AZ(S), defined on Plate 7, page 20. In the winter rainfall zones the variability is generally low to moderate as exemplified by the south-west of Western Australia. In the tropics, random cyclone visitations cause extremely great variations in rainfall from year to year: at Onslow (Western Australia), annual totals varied from 15 mm in 1912 to 1,085 mm in 1961 and, in the four consecutive years 1921 to 1924, the annual totals were 566, 69, 682 and 55 mm respectively. At Whim Creek (Western Australia), where 747 mm have been recorded in a single day, only 4 mm were received in the whole of 1924. Great variability can also occur in the heavy rainfall areas: at Tully (Queensland), the annual rainfalls have varied from 7,899 mm in 1950 to 2,489 mm in 1961.

Rainday frequency. The average number of days per year with rainfall of 0.2 mm or more is shown in Plate 9, page 22.

The frequency of rain-days exceed 150 per year in Tasmania (with a maximum of over 200 in western Tasmania), southern Victoria, parts of the north Queensland coast and in the extreme south-west of Western Australia. Over most of the continent the frequency is less than 50 rain-days per year. The area of low rainfall with high variability, extending from the north-west coast of Western Australia through the interior of the continent, has less than 25 rain-days per year. In the high rainfall areas of northern Australia the number of rain-days is about 80 per year, but heavier falls occur in this region than in southern regions.

Intensity. The highest rainfall intensities for some localities are shown in the first table on page 23. These figures represent intensities over only small areas around the recording points because turbulence and exposure characteristics of the measuring gauge may vary over a distance of a few metres. The highest 24-hour (9 a.m. to 9 a.m.) falls are listed by States in the second table on page 23. Most of the very high 24-hour falls (above 700 millimetres) have occurred in the coastal strip of Queensland, where a tropical cyclone moving close to mountainous terrain provides ideal conditions for spectacular falls. The highest 24-hour fall (907 millimetres) occurred at Crohamhurst, Queensland, on 3 February 1893.



ANNUAL RAINFALL VARIABILITY

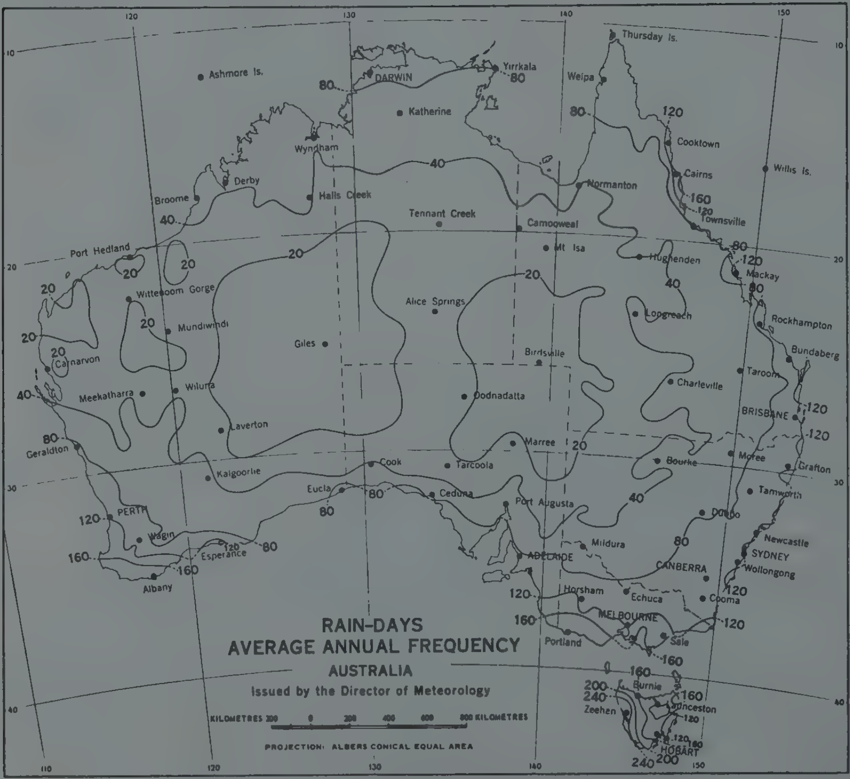
Variability index based on annual rainfall percentiles (90, 50 and 10%)

Variability index = 90% – 10% / 50%

AUSTRALIA

Issued by the Director of Meteorology

VARIABILITY INDEX
EXTREME > 1·75
VERY HIGH 1·50 – 1·75
HIGH 1·25 – 1·50
MODERATE TO HIGH 1·00 – 1·25
MODERATE 0·75 – 1·00
LOW TO MODERATE 0·50 – 0·75
LOW < 0·50
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Yirrkala
DARWIN
Ashmore Is
Weipa
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Townsville
Mt Isa
Port Hedland
Hughenden
Mackay
Onslow
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Moree
Bourke
Kalgoorlie
Cook
Tarcoola
Grafton
Eucla
Ceduna
Tamworth
Port Augusta
PERTH
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
CANBERRA
Wollongong
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
0.50
0.75
1.00
1.25
1.50
1.75
10
20
30
40
110
120
130
140
150



RAIN-DAYS

AVERAGE ANNUAL FREQUENCY

AUSTRALIA

Issued by the Director of Meteorology

KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Thursday Is.
Ashmore Is.
Yirrkala
DARWIN
Weipa
Katherine
Cooktown
Wyndham
Cairns
Willis Is.
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Townsville
Camooweal
Port Hedland
Mt Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Geraldton
Laverton
Marree
Moree
Cook
Tarcoola
Bourke
Grafton
Kalgoorlie
Eucla
Ceduna
Tamworth
Port Augusta
PERTH
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
CANBERRA
Wollongong
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART
20
40
80
120
160
200
240

PLATES 8 and 9

HIGHEST RAINFALL INTENSITIES IN SPECIFIED PERIODS

(millimetres)

(*Source:* Pluviograph records in Bureau of Meteorology archives.)

Station	*Period of record*	*Years of complete records*	*Period in hours*				
			1	*3*	*6*	*12*	*24*
			mm	mm	mm	mm	mm
Adelaide	1897–1974	74	69	133	141	141	141
Alice Springs	1951–1974	22	54	55	74	103	138
Brisbane	1911–1974	61	88	144	182	265	311
Broome	1948–1973	26	72	119	130	172	228
Canberra	1932–1970	35	51	68	71	89	139
Carnarvon	1956–1971	16	32	63	83	95	108
Charleville	1953–1974	22	42	66	75	111	142
Cloncurry	1953–1974	19	59	118	164	173	204
Darwin	1953–1973	18	88	101	109	152	191
Esperance	1963–1973	9	23	45	62	68	79
Hobart	1911–1976	63	28	56	87	117	168
Meekatharra	1953–1973	19	26	67	81	99	112
Melbourne	1878–1976	86	79	83	86	97	130
Mildura	1953–1976	22	49	60	65	65	91
Perth	1946–1974	27	32	38	47	64	93
Sydney	1913–1976	60	97	132	166	190	282
Townsville	1953–1974	20	87	145	165	168	275

HIGHEST DAILY RAINFALLS

(All years to June 1979)

State	*Station*	*Date*	*Amount*
			mm
Queensland	Bellenden Ker	4.1.1979	1140
	Crohamhurst	3.2.1893	907
	Finch Hatton	18.2.1958	878
	Mount Dangar	20.1.1970	869
Western Australia	Whim Creek	3.4.1898	747
	Kilto	4.12.1970	635
	Fortescue	3.5.1890	593
New South Wales	Dorrigo	21.2.1954	809
	Cordeaux River	14.2.1898	574
Northern Territory	Roper Valley	15.4.1963	545
	Groote Eylandt	28.3.1953	513
Tasmania	Cullenswood	22.3.1974	352
	Mathinna	5.4.1929	337
Victoria	Balook	18.2.1951	275
	Hazel Park	1.12.1934	267
South Australia	Stansbury	18.2.1946	222
	Stirling	17.4.1889	208

Thunderstorms and hail. A thunder-day at a given location is a calendar day on which thunder is heard at least once. Plate 10, page 24 shows isopleths (isobronts) of the average annual number of thunder-days which varies from 80 per year near Darwin to less than 10 per year over parts of the southern regions. Convectional processes during the summer wet season cause high thunderstorm incidence in northern Australia. The generally high incidence (40–60 annually) over the eastern upland areas is produced mainly by orographic uplift of moist air streams.

Hail, mostly of small size (less than 10 millimetres diameter), occurs with winter/spring cold frontal activity in southern Australia. Summer thunderstorms, particularly over the uplands of eastern Australia, sometimes produce large hail (greater than 10 millimetres diameter). Hail capable of piercing light gauge galvanised iron occurs at irregular intervals and sometimes causes widespread damage.

Snow. Generally, snow covers much of the Australian Alps above 1,500 metres for varying periods from late autumn to early spring. Similarly, in Tasmania the mountains are covered fairly frequently above 1,000 metres in these seasons. The area, depth and duration are highly variable and in the altitude range 500–1,000 metres no snow falls in some years. Snowfalls at levels below 500 metres are occasionally experienced in southern Australia, particularly in the foothill areas of Tasmania and Victoria, but falls are usually light and short-lived. In some seasons parts of the eastern uplands above 1,000 metres from Victoria to south-eastern Queensland have been covered with snow for serveral weeks. In ravines around Mt Kosciusko (2,228 metres) small areas of snow may persist through summer but there are no permanent snowfields.

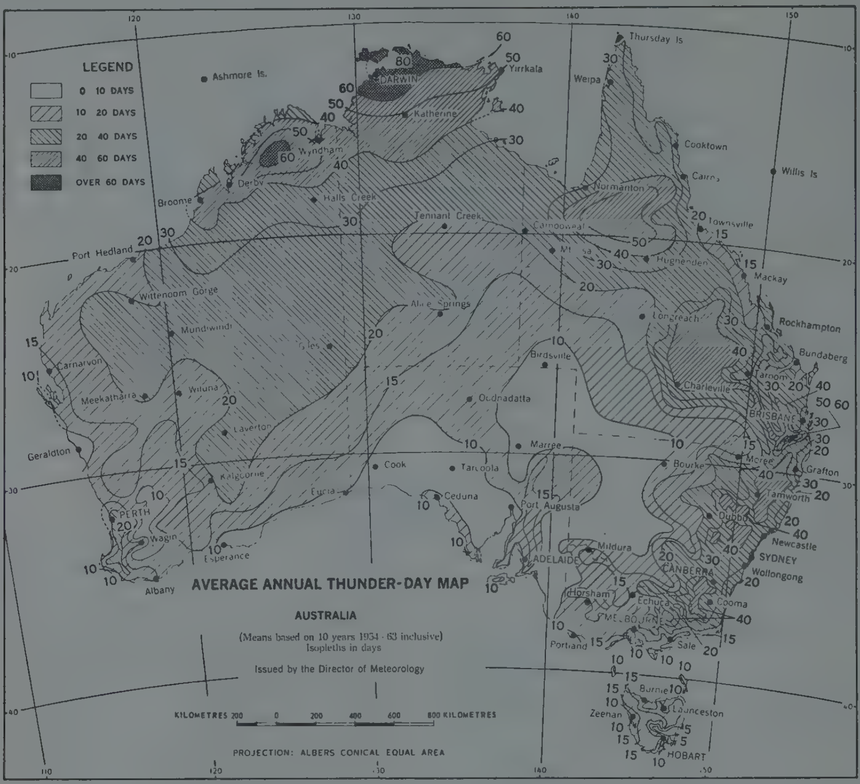

LEGEND
0 10 DAYS
10 20 DAYS
20 40 DAYS
40 60 DAYS
OVER 60 DAYS
AVERAGE ANNUAL THUNDER-DAY MAP
AUSTRALIA
(Means based on 10 years 1954 - 63 inclusive)
Isopleths in days
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Ashmore Is.
DARWIN
Yirrkala
Katherine
Thursday Is
Weipa
Cooktown
Cairns
Willis Is
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Normanton
Townsville
Mackay
Hughenden
Port Hedland
Wittenoom Gorge
Mundiwindi
Alice Springs
Giles
Longreach
Rockhampton
Bundaberg
Carnarvon
Meekatharra
Wiluna
Birdsville
Charleville
Taroom
BRISBANE
Oodnadatta
Laverton
Marree
Geraldton
Kalgoorlie
Cook
Tarcoola
Bourke
Moree
Grafton
Tamworth
Eucla
Ceduna
Port Augusta
PERTH
Wagin
Esperance
Albany
Dubbo
Newcastle
SYDNEY
Wollongong
Mildura
ADELAIDE
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Launceston
Zeehan
HOBART

PLATE 10

Temperature

Average temperatures. Average annual air temperatures as shown in Plate 11, page 25 range from 28° C along the Kimberley coast in the extreme north of Western Australia to 4° C in the alpine areas of south-eastern Australia. Although annual temperature may be used for broad comparisons, monthly temperatures are required for detailed analyses.

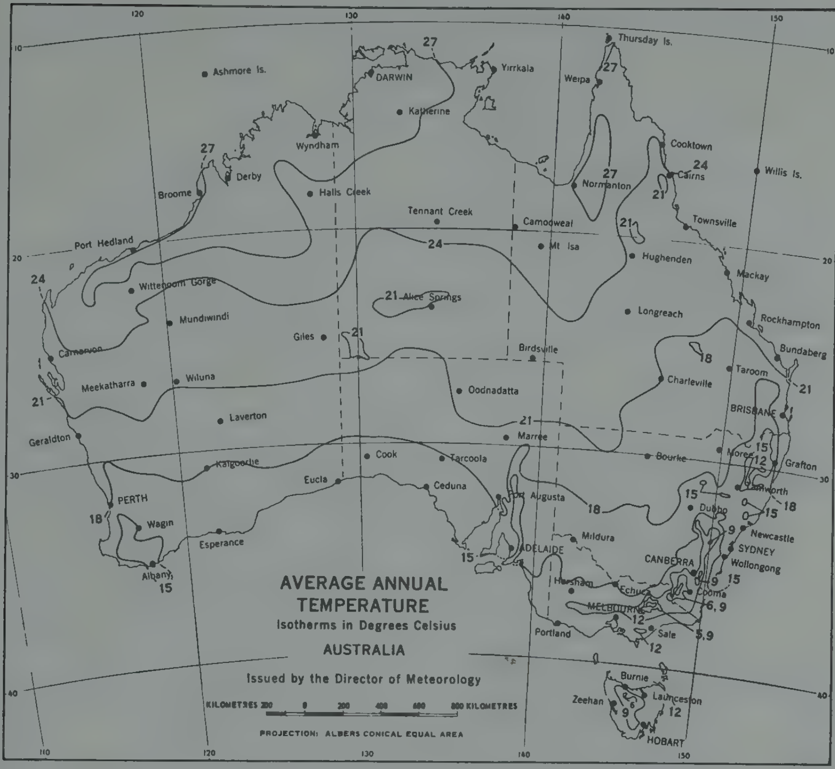
July is the month with the lowest average temperature in all parts of the continent. The months with the highest average temperature are January or February in the south and December in the north (except in the extreme north and north-west where it is November). The slightly lower temperatures of mid-summer in the north are due to the increase in cloud during the wet season.

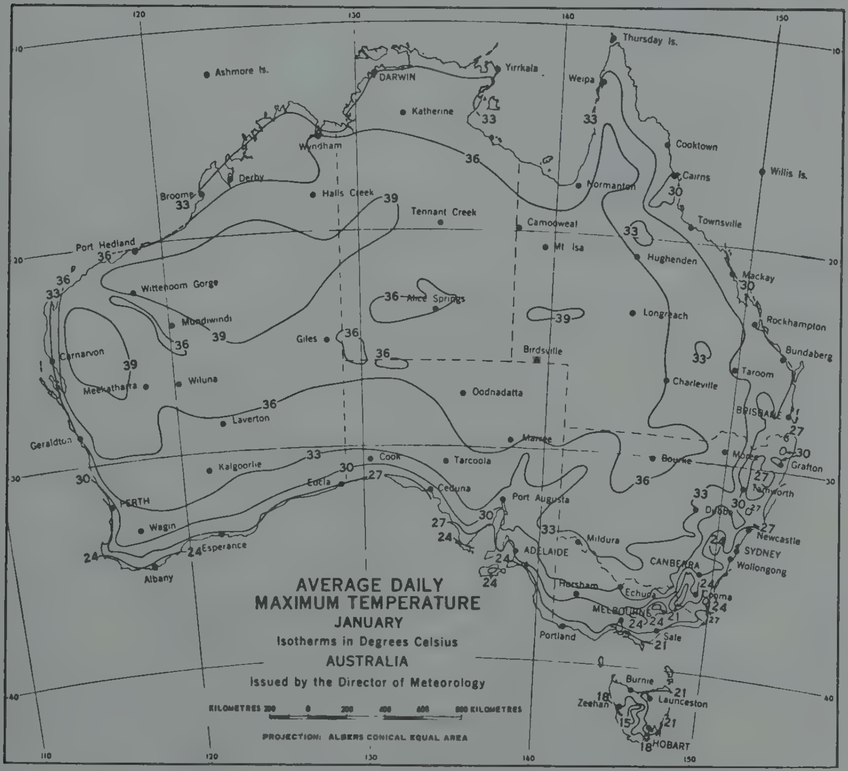
Average monthly maxima. Maps of average maximum and minimum temperatures for the months of January and July are shown in Plates 12–15 inclusive, pages 25–27.

In January, average maximum temperatures exceed 35° C over a vast area of the interior and exceed 40° C over appreciable areas of the north-west. The consistently hottest part of Australia is around Marble Bar, Western Australia (150 kilometres south-east of Port Hedland) where the average is 41° C and daily maxima during summer may exceed 40°C consecutively for several weeks at a time.

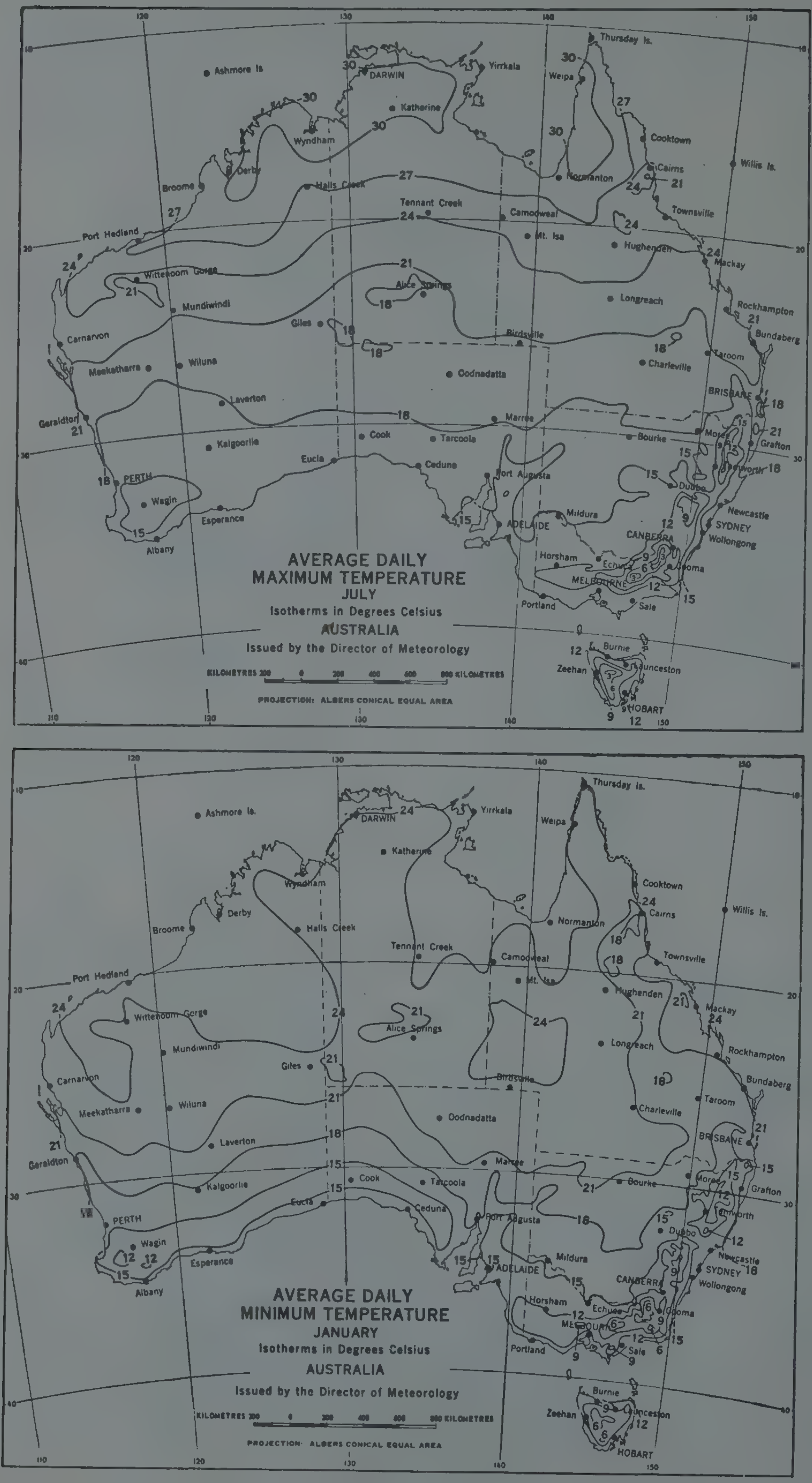
The marked gradients of isotherms of maximum temperature in summer in coastal areas, particularly along the south and west coasts, are due to the penetration inland of fresh sea breezes initiated by the sharp temperature discontinuities between the land and sea surfaces. There are also gradients of a complex nature in south-east coastal areas caused primarily by the uplands.

In July a more regular latitudinal distribution of average maxima is evident. Maxima range from 30°C near the north coast to 5° C in the alpine areas of the south-east.


AVERAGE ANNUAL
TEMPERATURE
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is.
DARWIN
Yirrkala
Thursday Is.
Weipa
Katherine
Wyndham
Cooktown
Willis Is.
Cairns
Normanton
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Mt Isa
Hughenden
Port Hedland
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
Laverton
BRISBANE
Marree
Geraldton
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Tamworth
PERTH
Augusta
Dubbo
Wagin
Mildura
Newcastle
Esperance
SYDNEY
Albany
ADELAIDE
CANBERRA
Wollongong
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
27
24
21
18
15
12
9
6, 9
5, 9
10
20
30
40
110
120
130
140
150


AVERAGE DAILY
MAXIMUM TEMPERATURE
JANUARY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is.
DARWIN
Yirrkala
Thursday Is.
Weipa
Katherine
Wyndham
Cooktown
Willis Is.
Cairns
Normanton
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Townsville
Mt Isa
Hughenden
Port Hedland
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
Laverton
BRISBANE
Marree
Geraldton
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
Esperance
SYDNEY
Albany
ADELAIDE
CANBERRA
Wollongong
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
39
36
33
30
27
24
21
18
15
10
20
30
40
110
120
130
140
150

PLATES 11 and 12


AVERAGE DAILY
MAXIMUM TEMPERATURE
JULY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is
DARWIN
Yirrkala
Thursday Is.
Weipa
Katherine
Wyndham
Derby
Broome
Halls Creek
Cooktown
Cairns
Willis Is.
Normanton
Townsville
Tennant Creek
Camooweal
Mt. Isa
Hughenden
Mackay
Port Hedland
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Carnarvon
Giles
Birdsville
Charleville
Taroom
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Geraldton
Marree
Moree
Bourke
Grafton
Kalgoorlie
Cook
Tarcoola
Eucla
Ceduna
Tamworth
Dubbo
Port Augusta
PERTH
Wagin
Esperance
Albany
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Burnie
Zeehan
Launceston
HOBART
30
27
24
21
18
15
12
9
6
3
110
120
130
140
150
10
20
30
40
AVERAGE DAILY
MINIMUM TEMPERATURE
JANUARY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA

PLATES 13 and 14

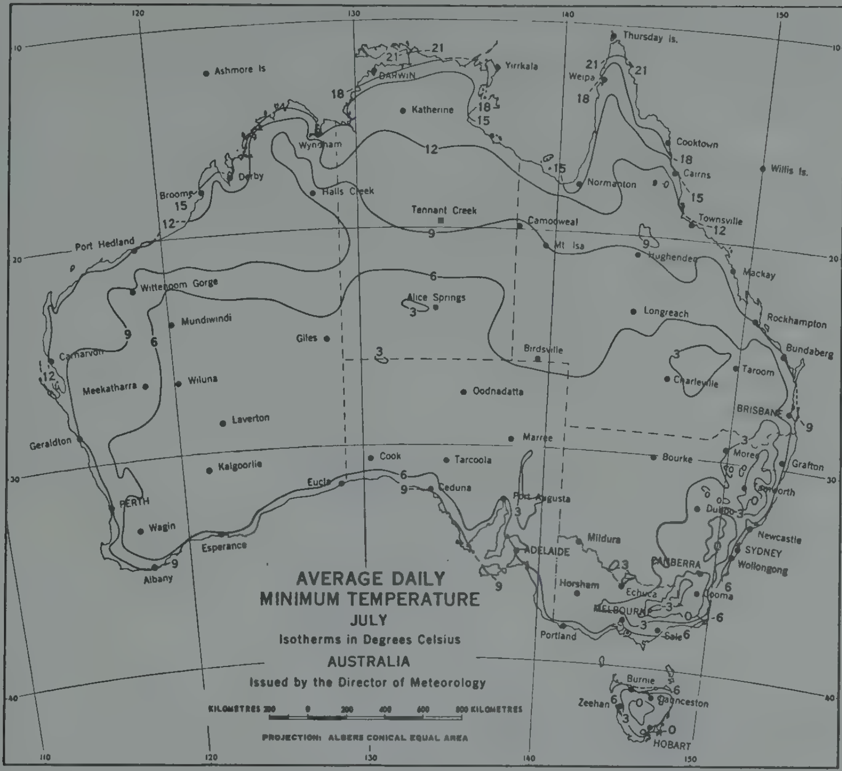

AVERAGE DAILY
MINIMUM TEMPERATURE
JULY
Isotherms in Degrees Celsius
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Thursday Is.
Ashmore Is
DARWIN
Yirrkala
Weipa
Katherine
Cooktown
Wyndham
Willis Is.
Cairns
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Townsville
Camooweal
Port Hedland
Mt Isa
Hughenden
Mackay
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Bundaberg
Carnarvon
Birdsville
Taroom
Meekatharra
Wiluna
Oodnadatta
Charleville
BRISBANE
Laverton
Geraldton
Marree
Moree
Grafton
Cook
Tarcoola
Bourke
Kalgoorlie
Eucla
Ceduna
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
SYDNEY
CANBERRA
Wollongong
Albany
Horsham
Echuca
Cooma
MELBOURNE
Sale
Portland
Burnie
Launceston
Zeehan
HOBART
21
18
15
12
9
6
3
0
-3
-6

PLATE 15

Extreme maxima. Temperatures have exceeded 45°C at nearly all inland stations more than 150 kilometres from the coast and at many places on the north-west and south coasts. Temperatures have exceeded 50°C at some inland stations and at a few near the coast. It is noteworthy that Eucla on the south coast has recorded 50.7°C, the highest temperature in Western Australia. This is due to the long trajectory over land of hot north-west winds from the Marble Bar area. Although the highest temperature recorded in Australia was 53.1°C at Cloncurry (Queensland), more stations have exceeded 50°C in western New South Wales than in other areas due to the long land trajectory of hot winds from the north-west interior of the continent.

Extreme maximum temperatures recorded at selected stations, including the highest recorded in each State, are shown in the table below.

EXTREME MAXIMUM TEMPERATURES

(All years to June 1979)

Station	*°C*	*Station*	*°C*
Western Australia—		New South Wales—	
Eucla	50.7	Bourke	52.8
Mundrabilla	49.8	White Cliffs	51.1
Forrest	49.8	Walgett	50.1
Madara	49.4	Wilcannia	50.0
Northern Territory—		Menindee	49.7
Charlotte Waters (near Finke)	48.2	Australian Capital Territory—	
Woologarang	47.5	Canberra	42.2
South Australia—		Victoria—	
Oodnadatta	50.7	Mildura	50.8
Kyancutta	49.3	Tasmania—	
Queensland—		Bushy Park	40.8
Cloncurry	53.1	Hobart	40.8
Winton	50.7		
Birdsville	50.0		

Extreme minima. The lowest temperatures in Australia have been recorded in the Snowy Mountains, where Charlotte Pass (elevation 1,760 metres) has recorded -22.2°C. Temperatures have fallen below -5°C at most inland places south of the tropics and at some places within a few kilometres of southern coasts. At Eyre, on the south coast of Western Australia, a minimum of -3.9°C has been recorded, and at Swansea, on the east coast of Tasmania, the temperature has fallen as low as -4.4°C.

In the tropics, extreme minima below 0°C have been recorded at many places away from the coasts as far north as Herberton, Queensland (-3.3°C). Even very close to the tropical coastline temperatures have fallen to 0°C, a low recording being -0.8°C for Mackay.

The next table shows extreme minimum temperatures recorded at specified stations, including the lowest recorded in each State.

EXTREME MINIMUM TEMPERATURES

(All years to June 1979)

Station	*°C*	Station	°C
Western Australia—		New South Wales—	
Dwellingup	-7.0	Charlotte Pass	-22.2
Booylgoo	-6.7	Kiandra	-20.6
Wandering	-5.7	Kosciusko Hotel	-14.4
Northern Territory—		Cooma	-11.2
Alice Springs	-7.5	Australian Capital Territory—	
Tempe Downs	-6.9	Canberra	-10.0
South Australia—		Victoria—	
Yongala	-8.2	Mount Hotham	-12.8
Kyancutta	-7.0	Omeo	-11.7
Queensland—		Bairnsdale	-7.2
Stanthorpe	-11.0	Tasmania—	
Nanango	-9.3	Oatlands	-12.8
		Bothwell	-12.5

Heat waves. Periods with a number of successive days having a temperature higher than 40°C are relatively common in summer over parts of Australia. With the exception of the north-west coast of Western Australia, however, most coastal areas rarely experience more than three successive days of such conditions. The frequency increases inland, and periods of up to ten successive days have been recorded at many inland stations. This figure increases in western Queensland and north-western Western Australia to more than twenty days in places. The central part of the Northern Territory and the Marble Bar-Nullagine area of Western Australia have recorded the most prolonged heat waves.

Heat waves are experienced in the coastal areas from time to time. During 11–14 January 1939, for example, a severe heat wave affected south-eastern Australia: Adelaide had a record of 47.6°C on the 12th, Melbourne a record of 45.6°C on the 13th and Sydney a record of 45.3°C on the 14th.

Frost.

For details *see* Year Book No. 63.

Humidity

Australia is a dry continent in terms of the water vapour content or humidity of the air and this element may be compared with evaporation to which it is related (*see* page 32). Humidity is measured at Bureau of Meteorology observational stations by a pair of dry and wet bulb thermometers mounted in a standard instrument screen. These measurements enable moisture content to be expressed by a number of parameters, two of which are vapour pressure and relative humidity.

Vapour pressure is an actual quantitative measure whereas relative humidity is a ratio (expressed as a percentage). Both of these are included here showing their respective applications but more detailed treatment is given to relative humidity because of its wider usage.

Vapour pressure. Vapour pressure is defined as the pressure exerted by the water vapour in the air; and it is a measure of the actual amount of water vapour present. The amount of water vapour does not normally vary greatly during the day, although afternoon sea breezes at coastal stations may bring in moisture to increase the vapour pressure temporarily by amounts up to 5 millibars. The 9 a.m. vapour pressure may be taken to approximate the mean value for the day.

The table on page 32 contains average 9 a.m. vapour pressures for selected stations. The annual averages range from 9.5 millibars at Hobart to 27.9 millibars at Thursday Island. At the high level station Kiandra (1,400 metres) the annual average is 7.9 millibars. Excluding Kiandra, monthly averages range from 6.7 millibars at inland stations in winter months to 30.9 millibars at Broome in February.

Vapour pressure together with corresponding air temperature have been used to measure climatic discomfort affecting human beings. Comfortable conditions are generally accepted as being within the vapour pressure range 7–17 millibars with respective air temperatures in the range 15–30°C. Above these limits heat discomfort increases and below them cold discomfort increases. The wet bulb temperature may also be used as a simple measure of heat discomfort when this temperature rises above 20°C.

Relative humidity. Relative humidity at a given temperature is the ratio (expressed as a percentage) of actual vapour pressure to the saturated vapour pressure at that temperature. As a single measure of human discomfort relative humidity is of limited value because it must be related to the temperature at the time.

Since the temperature at 9 a.m. approximates the mean temperature for the day (24 hours), the relative humidity at 9 a.m. may be taken as an estimate of the mean relative humidity for the day. Relative humidity at 3 p.m. occurs around the warmest part of the day on the average and is representative of the lowest daily values. Relative humidity on the average is at a maximum in the early morning when air temperature is minimal.

Relative humidity isopleths for January and July at 9 a.m. and 3 p.m. are shown in Plates 16–19 on pages 30–31, extracted from the *Climatic Atlas of Australia, Map Set 6 Relative Humidity* (1978).

The main features of the relative humidity pattern are:

(a) over the interior of the continent there is a marked dryness during most of the year, notably towards the northern coasts in the dry season (May–October);

(b) the coastal fringes are comparatively moist, although this is less evident along the northwest coast of Western Australia where continental effects are marked;

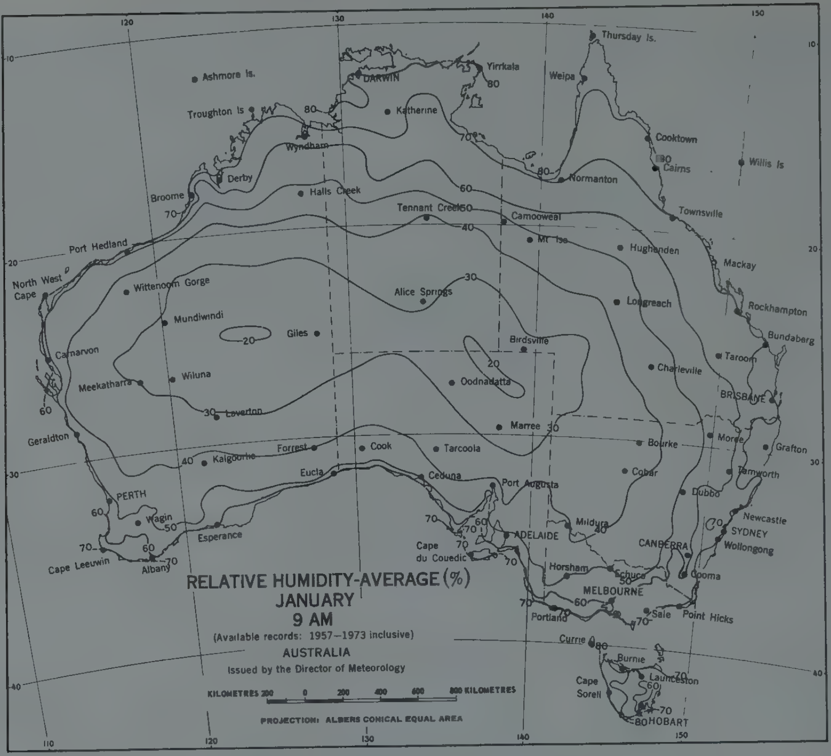
(c) in northern Australia the highest values occur during the summer wet season (December–February) and the lowest during the winter dry season (June–August);

(d) in most of southern Australia the highest values are experienced in the winter rainy season (June–August) and the lowest in summer (December–February).

The table on page 32 contains average relative humidity at 9 a.m. for the year and for each month. Average annual figures on the table range from 34 per cent at Mundiwindi and Marble Bar to 79 per cent at Thursday Island illustrating the range of average relative humidity over Australia. Adelaide has the lowest value for a capital city with an annual average of 60 per cent, compared with Melbourne 69 per cent and Darwin 73 per cent.

Monthly averages shown in the table range from 23 per cent at Mundiwindi in November to 89 per cent at Katanning in June and July. At Alice Springs monthly averages vary from 30 per cent in November to 66 per cent in the winter month of June when low temperatures have the effect of raising relative humidity over the interior. Broome varies from 46 per cent in August to 73 per cent in February, which is a marked seasonal change for a coastal station.

The pattern of variation of relative humidity differs from that of vapour pressure particularly in southern Australia. This is due to the difference in variation of the two parameters with temperature. If the amount of moisture in the air remains constant, vapour pressure decreases slightly with falling temperature, whereas relative humidity increases. Perth for example has an average 9 a.m. vapour pressure of 14.7 millibars in January and 11.0 in August; and the respective average relative humidity figures (51 and 74 per cent respectively) show a reverse change.


RELATIVE HUMIDITY-AVERAGE (%)
JANUARY
9 AM
(Available records: 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is.
Troughton Is
DARWIN
Yirrkala
Katherine
Wyndham
Weipa
Thursday Is.
Cooktown
Cairns
Willis Is
Normanton
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt. Isa
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Port Augusta
Cobar
Tamworth
Dubbo
PERTH
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape du Couedic
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
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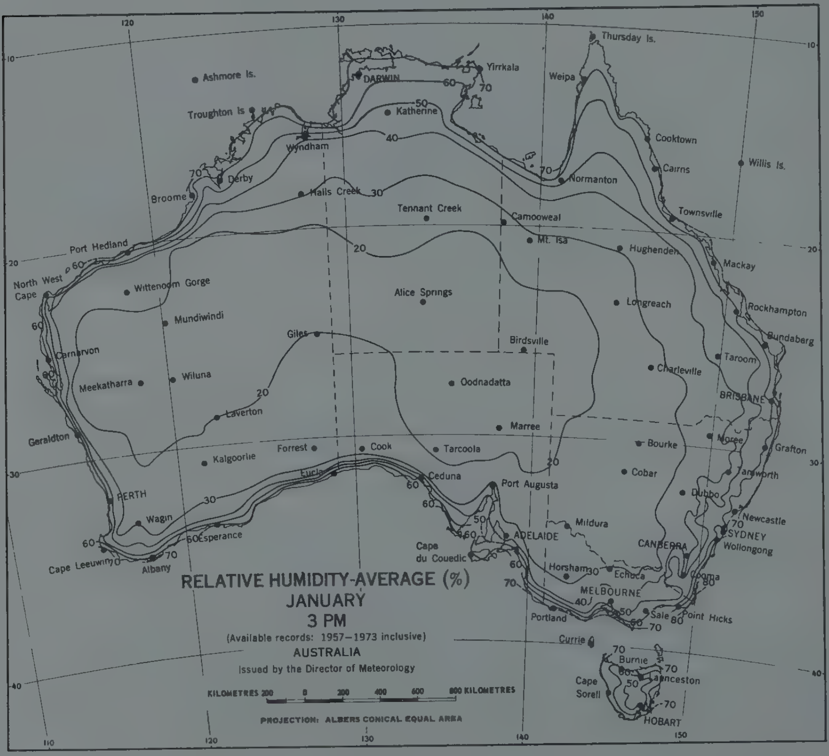
RELATIVE HUMIDITY-AVERAGE (%)
JANUARY
3 PM
(Available records: 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
Ashmore Is.
Troughton Is
DARWIN
Yirrkala
Katherine
Wyndham
Weipa
Thursday Is.
Cooktown
Cairns
Willis Is.
Normanton
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Mt. Isa
Townsville
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Port Augusta
Cobar
Tamworth
Dubbo
PERTH
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape du Couedic
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
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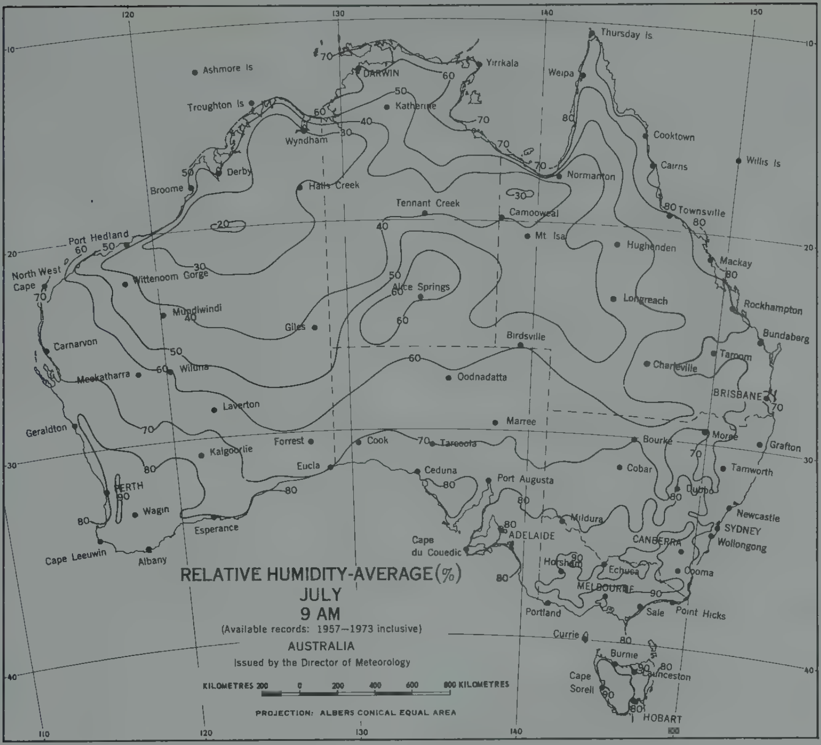
PLATES 16 and 17



RELATIVE HUMIDITY-AVERAGE(%)
JULY
9 AM
(Available records: 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology

KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
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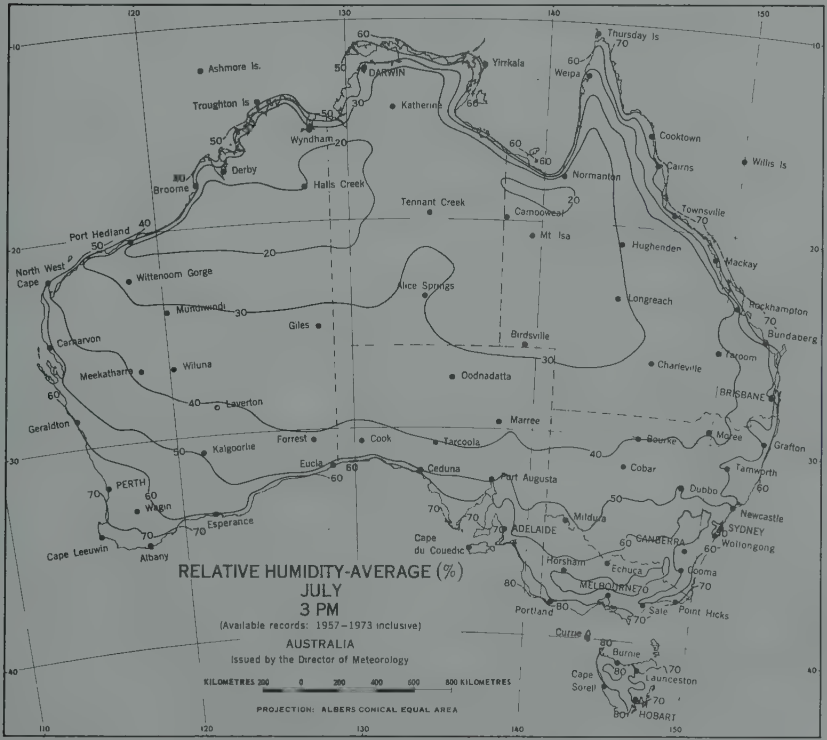
40
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Townsville
Mt Isa
Hughenden
Port Hedland
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Rockhampton
Longreach
Mundiwindi
Giles
Bundaberg
Carnarvon
Birdsville
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Newcastle
Esperance
Mildura
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape du Couedic
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
20
30
40
50
60
70
80
90



RELATIVE HUMIDITY-AVERAGE (%)
JULY
3 PM
(Available records: 1957–1973 inclusive)
AUSTRALIA
Issued by the Director of Meteorology

KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Thursday Is
Ashmore Is.
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Broome
Halls Creek
Normanton
Tennant Creek
Camooweal
Townsville
Mt Isa
Hughenden
Port Hedland
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Bundaberg
Carnarvon
Birdsville
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Newcastle
Esperance
Mildura
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape du Couedic
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART
20
30
40
50
60
70
80

PLATES 18 and 19

AVERAGE VAPOUR PRESSURE AT 9 A.M.

(millibars)

NOTE. The averages in this and the next table may differ from previously published averages derived from average monthly and annual dry and wet bulb temperatures respectively. This is mainly due to the nature of psychometric formulae and also to differences in the period of record.

Station	*Period of record*	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
Adelaide	1955-78	13.1	13.6	12.9	11.7	10.9	9.9	9.6	9.6	9.8	10.4	10.9	11.9	11.2
Alice Springs	1940-78	12.8	13.7	11.7	9.9	8.8	7.9	7.0	6.7	7.0	8.5	9.5	11.0	9.6
Armidale	1957-78	15.6	15.8	14.4	11.8	9.2	7.8	6.7	7.5	8.6	10.5	11.9	13.7	11.1
Brisbane	1951-78	21.7	22.2	21.3	18.1	14.1	11.9	10.7	11.1	13.1	15.5	17.7	19.8	16.4
Broome	1939-78	30.2	30.9	29.6	22.6	16.2	13.5	12.5	13.1	16.6	21.2	25.3	28.7	21.7
Canberra	1939-78	13.5	14.2	13.1	10.6	8.6	7.3	6.7	7.2	8.4	10.0	10.9	12.1	10.2
Carnarvon	1945-78	20.9	21.9	20.0	17.0	14.2	13.6	12.5	12.2	12.4	13.4	15.7	18.3	16.0
Ceduna	1939-78	14.0	14.5	13.8	12.4	11.2	9.9	9.4	9.8	10.4	10.8	11.6	12.9	11.7
Charleville	1942-78	17.3	18.4	16.4	12.9	10.7	9.5	8.3	8.3	9.1	11.1	12.0	14.7	12.4
Cloncurry	1939-75	21.2	22.8	18.7	13.8	11.0	9.4	8.0	7.7	8.6	11.2	13.2	17.3	13.6
Darwin	1941-78	30.4	30.5	30.2	26.8	21.5	17.8	17.4	20.1	24.4	27.2	28.9	29.9	25.4
Esperance	1957-69	16.1	16.9	15.8	14.7	12.8	12.1	11.1	11.0	11.8	12.6	13.5	14.8	13.6
Halls Creek	1944-78	21.7	22.2	18.6	13.0	10.8	8.8	7.5	7.4	8.4	11.5	14.4	18.7	13.5
Hobart	1944-78	11.3	11.6	11.2	10.0	9.0	8.1	7.7	7.7	8.2	9.0	9.6	10.7	9.5
Kalgoorlie	1939-78	13.6	14.3	13.7	12.3	10.9	9.9	9.1	9.1	9.2	10.0	11.1	12.3	11.3
Katanning	1957-78	13.6	14.4	13.6	12.9	11.5	10.6	9.7	10.0	10.4	10.9	11.2	12.2	11.7
Kiandra	1957-74	11.6	11.1	10.5	7.9	6.2	5.6	5.0	5.3	5.7	7.3	8.3	10.3	7.9
Marble Bar	1957-78	22.1	21.8	19.0	13.3	10.3	10.0	8.5	8.1	8.2	10.0	11.7	17.2	13.3
Melbourne	1955-78	13.7	14.7	13.8	11.9	10.5	9.5	8.8	9.0	9.7	10.6	11.4	12.4	11.3
Mildura	1946-78	13.5	14.3	13.4	11.8	10.6	9.3	8.7	9.1	9.8	10.7	11.2	12.1	11.2
Mundiwindi	1957-78	14.0	14.8	13.0	11.0	9.0	8.8	7.7	7.2	6.8	8.0	8.9	11.1	10.0
Perth	1942-78	14.7	15.2	14.7	13.6	12.4	11.9	11.1	11.0	11.4	11.2	12.4	13.6	12.8
Sydney	1955-78	19.1	20.0	18.8	15.1	11.8	10.5	9.0	9.6	11.0	13.1	14.9	17.2	14.2
Thursday Island	1950-78	30.5	30.7	30.6	29.5	28.3	26.1	24.7	24.7	25.1	26.6	28.3	29.9	27.9
Townsville	1939-78	27.2	27.7	26.3	22.4	18.8	15.6	15.2	15.9	17.7	20.7	23.5	25.5	21.4

AVERAGE RELATIVE HUMIDITY AT 9 A.M.

(per cent)

Station	*Period of record*	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Year*
Adelaide	1955-78	49	51	54	59	69	73	75	71	63	56	53	51	60
Alice Springs	1940-78	36	41	42	46	57	66	61	50	36	33	30	31	44
Armidale	1957-78	67	71	72	73	78	80	75	72	64	59	58	59	69
Brisbane	1951-78	67	68	70	69	68	69	66	62	60	59	58	60	64
Broome	1939-78	70	73	69	55	51	50	49	46	48	54	58	64	57
Canberra	1939-78	60	65	68	74	81	84	84	78	72	65	60	56	70
Carnarvon	1945-78	60	60	58	57	60	70	70	63	54	52	55	58	59
Ceduna	1939-78	55	59	62	68	77	82	81	77	66	56	54	54	65
Charleville	1942-78	49	54	54	54	63	71	66	56	45	41	37	41	52
Cloncurry	1939-75	53	61	53	45	47	50	45	37	31	30	32	41	43
Darwin	1941-78	82	84	83	76	67	63	64	68	71	70	73	77	73
Esperance	1957-69	62	67	66	71	76	81	82	76	71	65	62	62	70
Halls Creek	1944-78	51	55	44	33	36	35	31	25	22	25	30	40	35
Hobart	1944-78	58	62	65	69	75	78	78	73	65	62	60	55	67
Kalgoorlie	1939-78	48	54	56	62	70	76	75	68	56	50	46	45	58
Katanning	1957-78	59	65	69	77	85	89	89	87	82	70	60	57	74
Kiandra	1957-74	67	68	73	75	83	86	86	85	72	67	63	65	74
Melbourne	1955-78	61	65	67	71	77	81	80	75	69	64	62	61	69
Marble Bar	1957-78	47	48	41	33	35	41	37	30	24	24	24	34	34
Mildura	1946-78	50	56	61	70	82	88	86	79	68	59	53	49	66
Mundiwindi	1957-78	32	37	35	37	41	50	47	39	28	25	23	25	34
Perth	1942-78	51	53	57	65	72	78	78	74	68	50	54	51	63
Sydney	1955-78	68	71	72	70	70	73	68	66	63	61	62	65	67
Thursday Island	1950-78	83	85	85	82	81	80	79	78	75	73	73	77	79
Townsville	1939-78	73	76	74	69	67	66	66	63	60	61	64	66	67

Sunshine, cloud and fog

For details *see* Year Book No. 62.

Global radiation

For details *see* Year Book No. 63.

Evaporation

Evaporation is defined as the emission of water vapour by a free surface of water at a temperature below boiling point. Potential evaporation is the quantity of water vapour emitted by a free surface of pure water, per unit surface area and unit time, in the existing conditions. In climatology potential evaporation is normally referred to simply as evaporation.

Evaporation from a free water surface depends on a number of climatic elements, mainly temperture, humidity and wind. Evaporation data are useful in water conservation studies and in estimating potential evapotranspiration for irrigation and plant growth studies. In Australia, where surface water storage is vital over large areas, evaporation is a highly significant element.

The Australian Bureau of Meteorology measured evaporation prior to about 1966 by means of the sunken tank type of evaporimeter (Hounam 1961). Analyses based on these tank evaporation measurements are given in the Review of Australia's Water Resources: Monthly Rainfall and Evaporation (1968).

Evaporation measurements. In 1966, the Class-A Pan became the standard equipment used by the Bureau of Meteorology for measuring evaporation from a free water surface. The Class-A Pan network had been steadily increased to about 330 stations throughout Australia by 1979.

Screens to prevent the consumption of water by birds have been progressively fitted to instruments in the network since 1967 and by 1979 nearly all of them had been so fitted. Experiments have shown that measurements taken with an instrument after installation of a screen need to be increased on the average by 7 per cent to compensate for consequential reduction in evaporation. Corrections have been applied to station records as from the date of installation of a screen.

Class-A Pan data for the period January 1967 to May 1974 inclusive have been examined. Analyses have been prepared showing the distribution of average pan evaporation over Australia during this period (*see Climatic Atlas of Australia, Map Set 3, Evaporation*). Generally, instruments located near such water expanses as rivers, reservoirs or irrigation systems record lower evaporation due to the influence of water on local climatic elements, notably humidity (Hoy and Stephens 1975).

Average annual evaporation. The average annual Class-A Pan evaporation (mm) over Australia is shown in Plates 20–21, pages 34–35.

Annual pan evaporation over Australia is high, ranging from 4500 mm in the Great Sandy Desert region of Western Australia to 1200 mm in the alpine areas of south-eastern Australia, and 900 mm in south-west Tasmania. About 75 per cent of the continent has annual evaporation exceeding 2,500 mm. In central and north-west parts of the continent the annual evaporation is twenty times the annual rainfall. Evaporation on the arid north-west coast of Western Australia in the vicinity of Port Hedland (3600 mm) is comparable with upland areas of central Australia around Alice Springs.

Australian evaporation figures are high in comparison to those of North America. In the United States, for instance, the average pan evaporation varies from 3600 mm in the dry south-west (Arizona) to 600 mm in the extreme north-east and north-west, where conditions are relatively humid (Baldwin 1973).

In arid areas of Asia and the Middle East available pan evaporation measurements indicate that average annual values may be up to 20 per cent higher than in Australia. For example, average annual pan evaporation measured at Karga (Egypt) for the period 1964–1971 was 5300 mm (Egyptian Meteorological Authority).

Average evaporation in mid-seasonal months. Average pan evaporation analyses for the mid-seasonal months January and July are shown in Plates 20–21, pages 34–35.

In January, evaporation averages over most of the continent are the highest for any month and the extremely high figures of about 600 mm (19 mm daily) in the Gibson and Simpson Deserts are notable. It is estimated that January figures for individual months may reach as high as 700 mm in these desert regions.

In July, relatively high figures maintained in the north (200 mm) contrast with low figures in the south (100 mm). In higher mountain areas of south-eastern Australia evaporation in this month is as low as 20 mm.

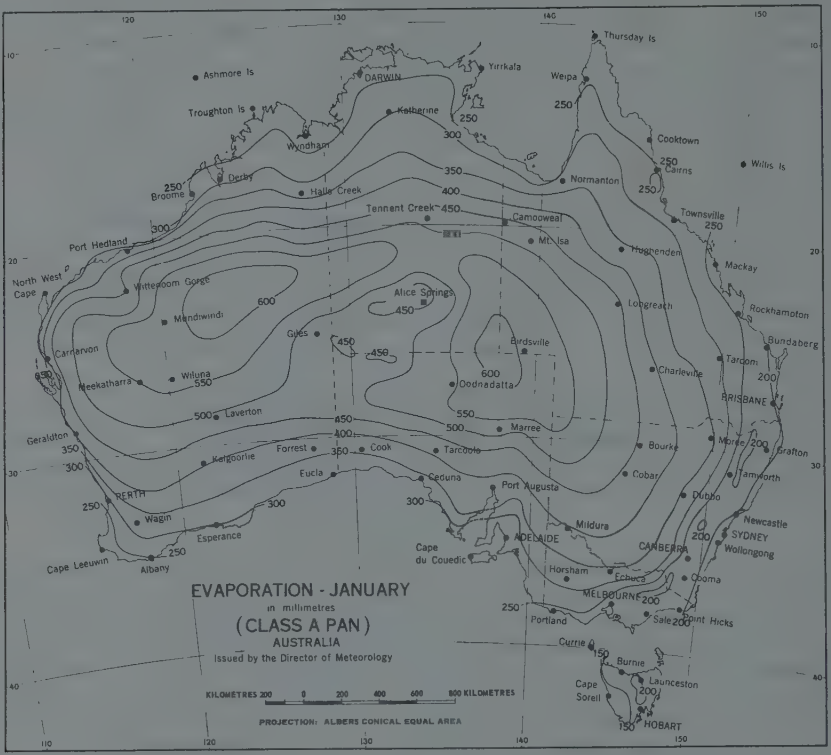
Evaporation in relation to water studies. Class-A Pan evaporation measurements exceed the previous sunken tank measurements by amounts up to 60 per cent in the dry high radiation areas of the northwest interior of the continent (*Climatic Atlas, Map Set 3*).

The increase in pan evaporation in relation to sunken tank measurements is significant in such studies as water conservation, effective rainfall and drought. Earlier studies incorporating tank evaporation may need review in relation to the higher Class-A Pan figures.

In southern Australia the marked seasonal variation in evaporation is significant in agriculture and pastoral drought appraisal. Drought existing in spring, for instance, intensifies rapidly as evaporation increases during summer before relief rains arrive.

In northern Australia evaporation reaches a maximum about November and a high level of evaporation is maintained if summer rains are delayed or are deficient. In this type of situation pastoral conditions may deteriorate rapidly.

As more Class-A Pan data become available in Australia improved evaporation analyses will enable more detailed water studies to be made.


EVAPORATION - JANUARY
in millimetres
(CLASS A PAN)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Thursday Is
Ashmore Is
DARWIN
Yirrkala
Weipa
Troughton Is
Katherine
Cooktown
Wyndham
Willis Is
Cairns
Derby
Normanton
Broome
Halls Creek
Townsville
Tennent Creek
Camooweal
Port Hedland
Mt. Isa
Hughenden
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Bundaberg
Carnarvon
Birdsville
Taroom
Wiluna
Meekatharra
Oodnadatta
Charleville
BRISBANE
Laverton
Marree
Geraldton
Bourke
Moree
Grafton
Forrest
Cook
Tarcoola
Kalgoorlie
Cobar
Tamworth
Fucla
Ceduna
Port Augusta
PERTH
Dubbo
Wagin
Mildura
Newcastle
SYDNEY
Wollongong
Esperance
Cape du Couedic
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART
150
200
250
300
350
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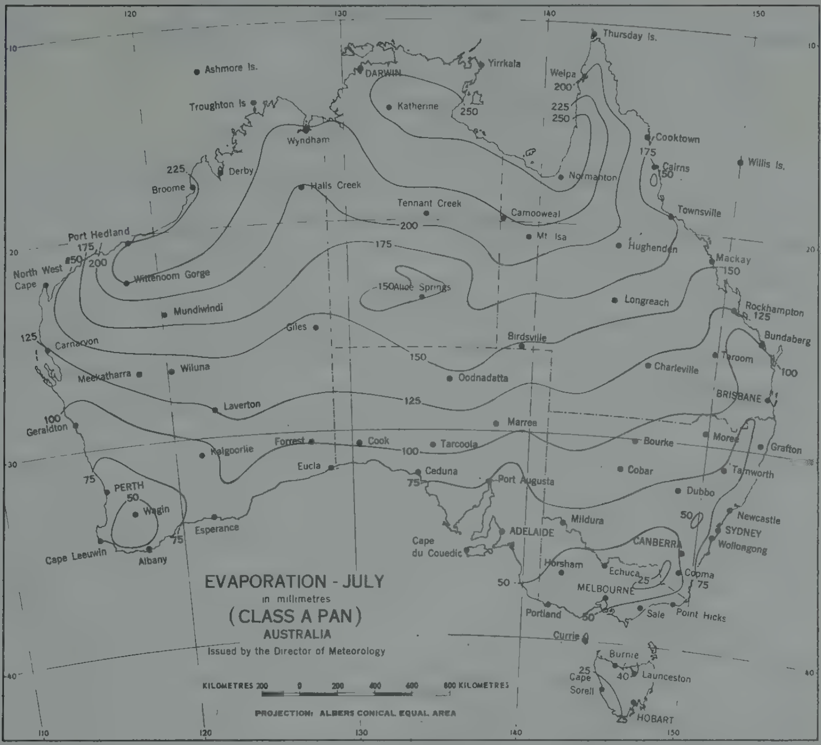
450
500
550
600

PLATE 20


EVAPORATION - JULY
in millimetres
(CLASS A PAN)
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
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40
Ashmore Is.
Troughton Is
DARWIN
Yirrkala
Thursday Is.
Weipa
Katherine
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Normanton
Cooktown
Cairns
Willis Is.
Townsville
Mt Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Rockhampton
Mundiwindi
Giles
Birdsville
Bundaberg
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Marree
Geraldton
Kalgoorlie
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Eucla
Ceduna
Port Augusta
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Tamworth
PERTH
Wagin
Dubbo
Newcastle
SYDNEY
Wollongong
Mildura
ADELAIDE
Esperance
Cape Leeuwin
Albany
Cape du Couedic
CANBERRA
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART
250
225
200
175
150
125
100
75
50
40
25

PLATE 21

Winds

. The mid-latitude anticyclones are the chief determinants of Australia's two main prevailing wind streams. In relation to the west-east axes of the anticyclones these streams are easterly to the north and westerly to the south. The cycles of development, motion and decay of low pressure systems to the north and south of the anticyclones result in diversity of wind flow patterns. Wind variations are greatest around the coasts where diurnal land and sea breeze effects are important.

Wind roses for the months of January and July at 9 a.m. and 3 p.m. at selected stations are shown in Plates 22–25 inclusive, pages 36–37, extracted from *Climatic Atlas of Australia, Map Set 8* (1979). The wind roses show the percentage frequency of direction (eight points of compass) and speed ranges of winds.

Orography affects the prevailing wind pattern in various ways such as the channelling of winds through valleys, deflection by mountains and cold air drainage from highland areas. An example of this channelling is the high frequency of north-west winds at Hobart caused by the north-west south-east orientation of the Derwent River Valley.

Average wind speeds and prevailing directions at Australian capitals are included in the climatic tables on pages 40–47. Perth is the windiest capital with an average wind speed of 15.6 kilometres per hour; Canberra is the least windy with an average speed of 5.8 kilometres per hour.

The highest wind speeds and wind gusts recorded in Australia have been associated with tropical cyclones. The highest recorded gust was 246 kilometres per hour during a cyclone at Onslow, Western Australia in 1975 and gusts reaching 200 kilometres per hour have been recorded on several occasions in northern Australia with cyclone visitations. The highest gusts recorded at Australian capitals were 217 kilometres per hour at Darwin and 156 kilometres per hour at Perth.

Estimates of the extreme wind gust expected in a given return period* have been derived for places through Australia (Whittingham, 1964). On this basis, for example, Darwin would have an extreme gust for a return period of 10 years of 140 kilometres per hour, Melbourne 135 and Perth 130.

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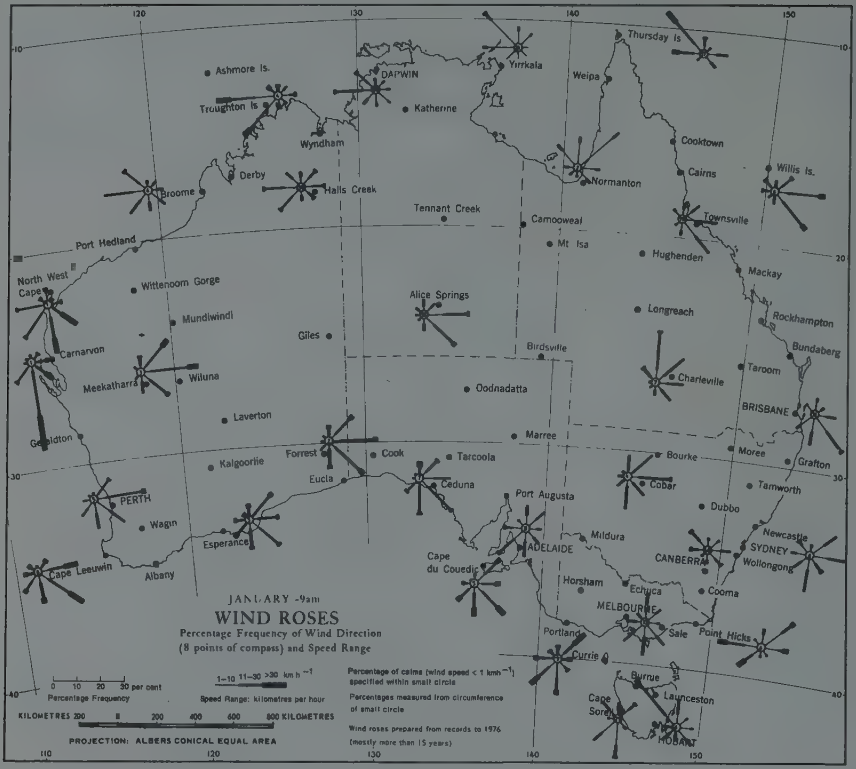
*Return period is the average period between successive occurrences equal to, or greater than, a given speed. For example the extreme wind gust for a return period of 10 years can be expected to occur once in 10 years on the average.



JANUARY -9am

WIND ROSES

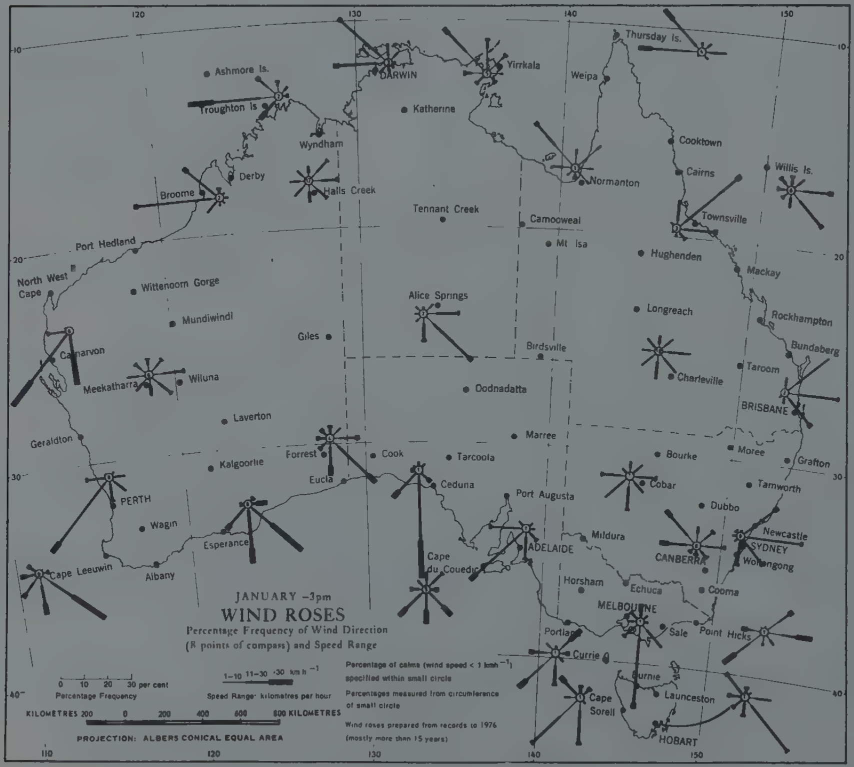
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range

Percentage of calms (wind speed < 1 kmh⁻¹) specified within small circle

Percentages measured from circumference of small circle

Wind roses prepared from records to 1976 (mostly more than 15 years)

0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h⁻¹
Speed Range: kilometres per hour
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Ashmore Is.
Troughton Is
DARWIN
Katherine
Yirrkala
Thursday Is
Weipa
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Normanton
Cooktown
Cairns
Willis Is.
Townsville
Mt Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Giles
Birdsville
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Geraldton
Marree
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART



JANUARY -3pm

WIND ROSES

Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range

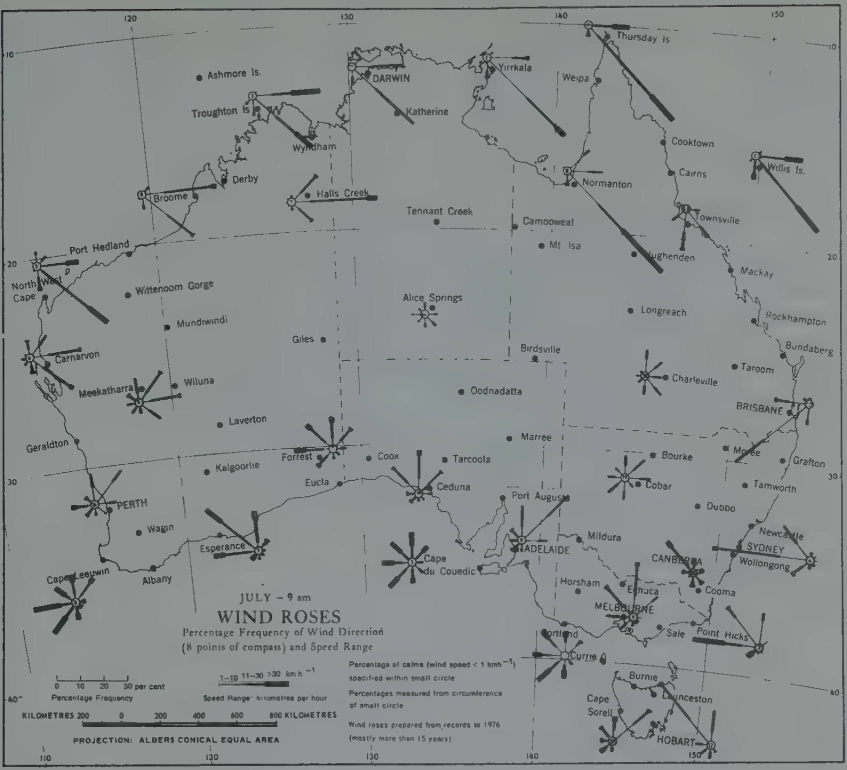
Percentage of calms (wind speed < 1 kmh⁻¹) specified within small circle

Percentages measured from circumference of small circle

Wind roses prepared from records to 1976 (mostly more than 15 years)

0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h⁻¹
Speed Range: kilometres per hour
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA
110
120
130
140
150
10
20
30
40
Ashmore Is.
Troughton Is
DARWIN
Katherine
Yirrkala
Thursday Is.
Weipa
Wyndham
Derby
Broome
Halls Creek
Tennant Creek
Camooweal
Normanton
Cooktown
Cairns
Willis Is.
Townsville
Mt Isa
Hughenden
Mackay
Port Hedland
North West Cape
Wittenoom Gorge
Mundiwindi
Alice Springs
Longreach
Rockhampton
Bundaberg
Giles
Birdsville
Carnarvon
Meekatharra
Wiluna
Oodnadatta
Charleville
Taroom
BRISBANE
Laverton
Geraldton
Marree
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Ceduna
Cobar
Tamworth
PERTH
Port Augusta
Dubbo
Wagin
Esperance
Mildura
Newcastle
SYDNEY
Wollongong
ADELAIDE
CANBERRA
Cape Leeuwin
Albany
Cape du Couedic
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Launceston
Cape Sorell
HOBART

PLATES 22 and 23



JULY – 9 am

WIND ROSES

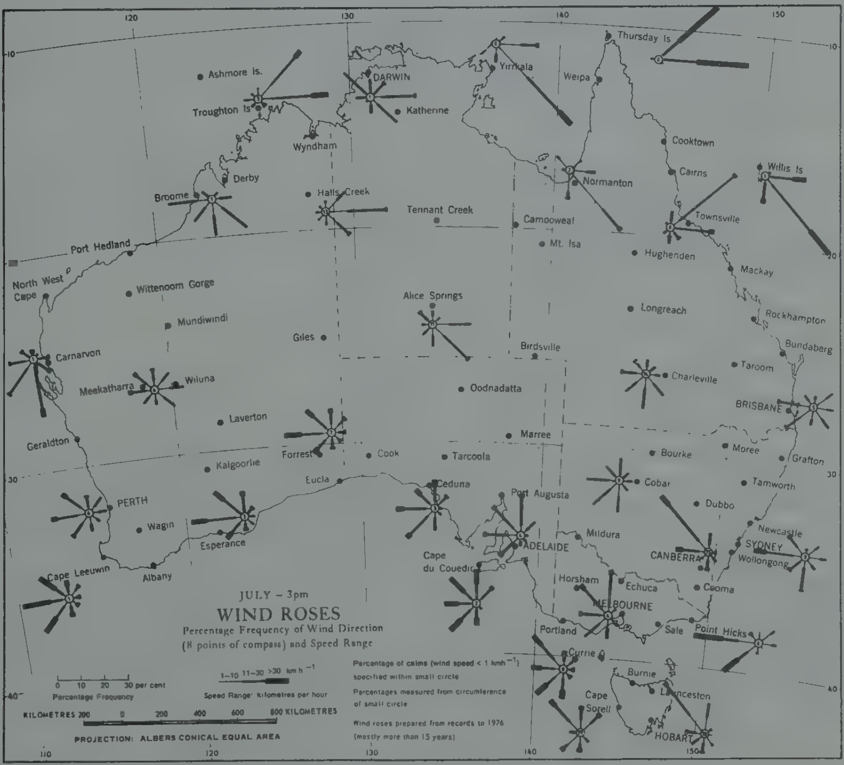
Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range

Percentage of calms (wind speed < 1 km h^{-1}) specified within small circle

Percentages measured from circumference of small circle

Wind roses prepared from records to 1976 (mostly more than 15 years)

120
130
140
150
10
20
30
40
110
Thursday Is
Ashmore Is.
Yirrkala
Weipa
DARWIN
Troughton Is
Katherine
Wyndham
Cooktown
Cairns
Willis Is.
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Townsville
Camooweal
Mt Isa
Port Hedland
Hughenden
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Mundiwindi
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Cobar
Ceduna
Tamworth
Port Augusta
PERTH
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
CANBERRA
SYDNEY
Wollongong
Cape du Couedic
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h^{-1}
Speed Range: kilometres per hour
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA



JULY – 3pm

WIND ROSES

Percentage Frequency of Wind Direction
(8 points of compass) and Speed Range

Percentage of calms (wind speed < 1 km h^{-1}) specified within small circle

Percentages measured from circumference of small circle

Wind roses prepared from records to 1976 (mostly more than 15 years)

120
130
140
150
10
20
30
40
110
Thursday Is
Ashmore Is.
Yirrkala
Weipa
DARWIN
Troughton Is
Katherine
Wyndham
Cooktown
Cairns
Willis Is
Derby
Normanton
Broome
Halls Creek
Tennant Creek
Townsville
Camooweal
Mt. Isa
Port Hedland
Hughenden
Mackay
North West Cape
Wittenoom Gorge
Alice Springs
Longreach
Mundiwindi
Rockhampton
Giles
Birdsville
Bundaberg
Carnarvon
Taroom
Charleville
Meekatharra
Wiluna
Oodnadatta
BRISBANE
Laverton
Marree
Geraldton
Forrest
Cook
Tarcoola
Bourke
Moree
Grafton
Kalgoorlie
Eucla
Cobar
Ceduna
Tamworth
Port Augusta
PERTH
Dubbo
Wagin
Mildura
Newcastle
Esperance
ADELAIDE
CANBERRA
SYDNEY
Wollongong
Cape du Couedic
Cape Leeuwin
Albany
Horsham
Echuca
Cooma
MELBOURNE
Portland
Sale
Point Hicks
Currie
Burnie
Cape Sorell
Launceston
HOBART
0 10 20 30 per cent
Percentage Frequency
1–10 11–30 >30 km h^{-1}
Speed Range: kilometres per hour
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ALBERS CONICAL EQUAL AREA

PLATES 24 and 25

Floods

Widespread flood rainfall may occur anywhere in Australia but it has a higher incidence in the north and in the eastern coastal areas. It is most economically damaging along the shorter streams flowing from the eastern uplands eastward to the seaboard of Queensland and New South Wales. These flood rains are notably destructive in the more densely populated coastal river valleys of New South Wales—the Tweed, Richmond, Clarence, Macleay, Hunter and Nepean-Hawkesbury—all of which experience relatively frequent flooding. Although chiefly summer rains, they may occur in any season.

The great Fitzroy and Burdekin river basins of Queensland receive flood rains during the summer wet season. Much of the run-off due to heavy rain in north Queensland west of the eastern uplands flows southward through the normally dry channels of the network of rivers draining the interior lowlands into Lake Eyre. This widespread rain may cause floods over an extensive area, but it soon seeps away or evaporates, occasionally reaching the lake in quantity. The Condamine and other northern tributaries of the Darling also carry large volumes of water from flood rains south through western New South Wales to the Murray and flooding occurs along their courses at times.

Flood rains occur at irregular intervals in the Murray-Murrumbidgee system of New South Wales and Victoria, the coastal streams of southern Victoria and the north coast streams of Tasmania.

Droughts

Drought, in general terms, refers to an acute water shortage. This is normally due to rainfall deficiency but with other parameters contributing to the actual water availability. The best single measure of water availability in Australia is rainfall, although parameters such as evaporation and soil moisture are significant, or even dominant, in some situations.

Droughts have severe economic effects in Australia and during the years 1864–1973 inclusive there have been at least eight major droughts affecting the greater part of Australia and at least seven other droughts of lesser severity affecting extensive areas (Foley 1957 (ii)). The droughts of 1895–1903 and 1958–68 were probably the most disastrous in their effects on primary industry.

Gibbs and Maher (1967), having defined a drought year at a certain station as one with the year's rainfall in the first decile range, concluded that the occurrence of areas in the first decile range on annual decile maps for the period 1885–1965 corresponded rather well with drought areas discussed by Foley (1957).

One method of assessing the incidence of rainfall deficiency is the analysis of the distribution of annual rainfalls less than the median (Gaffney 1975). The range between the 50 percentile (median) and the 10 percentile gives a measure of the variation in magnitude of annual rainfalls less than the median. The ratio of this range to the 30 percentile value may be used as an index of rainfall deficiency incidence or drought incidence, i.e.:

$$\text{Index of drought incidence} = \left\{\frac{50-10}{30}\right\} \text{ percentile}$$

For example, the indexes for Onslow (north-west coast of Western Australia) and similarly, for Cape Otway (south coast of Victoria) are derived thus:

$$\text{Index for Onslow} = \left\{\frac{222-64}{145}\right\} \text{ mm} = 1.09$$

$$\text{Index for Cape Otway} = \left\{\frac{865-716}{801}\right\} \text{ mm} = 0.19$$

Plate 26, on the following page, shows the distribution of the index of drought incidence over Australia. The intrusions of high index values from the interior to the central coast of Queensland and across western New South Wales are noteworthy. The extreme values on the north-west coast of Western Australia are among the highest in Australia (e.g. Onslow 1.09) due to the dependence of the rainfall on random cyclone tracks.

The Bureau of Meteorology commenced the issue of *Drought Reviews* in June 1965. These reviews provide a summary of serious rainfall deficiencies and are issued monthly when serious or severe deficiencies exist in any of the rainfall districts. The deficiency criteria are based on monthly rainfall decile analyses. A review of droughts in Australia to 1968 is included in Year Book No. 54, 1968. Summaries of subsequent drought periods may be obtained from the *Drought Reviews*.

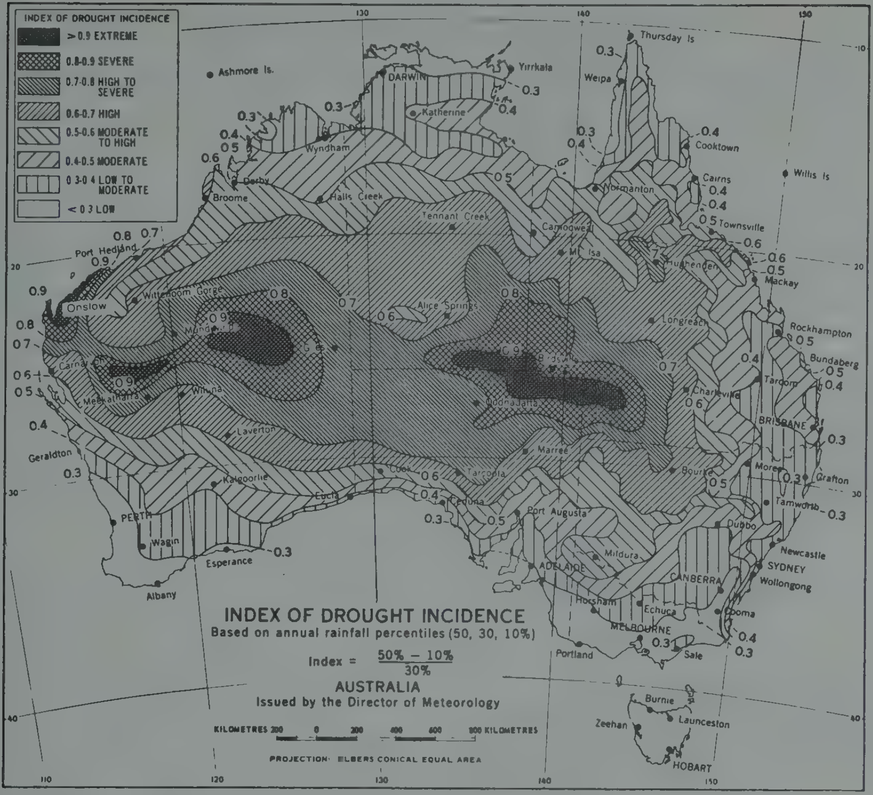

INDEX OF DROUGHT INCIDENCE
>0.9 EXTREME
0.8-0.9 SEVERE
0.7-0.8 HIGH TO SEVERE
0.6-0.7 HIGH
0.5-0.6 MODERATE TO HIGH
0.4-0.5 MODERATE
0.3-0.4 LOW TO MODERATE
<0.3 LOW
INDEX OF DROUGHT INCIDENCE
Based on annual rainfall percentiles (50, 30, 10%)
Index = 50% − 10% / 30%
AUSTRALIA
Issued by the Director of Meteorology
KILOMETRES 200 0 200 400 600 800 KILOMETRES
PROJECTION: ELBERS CONICAL EQUAL AREA
DARWIN
PERTH
ADELAIDE
MELBOURNE
SYDNEY
BRISBANE
CANBERRA
HOBART
Alice Springs
Broome
Port Hedland
Onslow
Carnarvon
Geraldton
Kalgoorlie
Esperance
Albany
Wagin
Laverton
Meekatharra
Wiluna
Wittenoom Gorge
Derby
Wyndham
Halls Creek
Katherine
Tennant Creek
Yirrkala
Thursday Is
Weipa
Cooktown
Cairns
Townsville
Mackay
Rockhampton
Bundaberg
Normanton
Camooweal
Mt Isa
Hughenden
Longreach
Charleville
Tarcoom
Birdsville
Oodnadatta
Marree
Bourke
Moree
Grafton
Tamworth
Dubbo
Newcastle
Wollongong
Cooma
Sale
Echuca
Horsham
Mildura
Portland
Port Augusta
Ceduna
Tarcoola
Cook
Eucla
Burnie
Launceston
Zeehan
Ashmore Is.
Willis Is

PLATE 26

Climatic discomfort

For details *see* Year Book No. 62.

Climatic data for capital cities

The averages for a number of elements determined from long-period observations at the Australian capitals to 1976 inclusive, are given in the following pages. Extremes generally cover all available data to 1978 inclusive, whereas averages may only refer to present sites.

CLIMATIC DATA: PERTH, WESTERN AUSTRALIA

(Lat. 31° 57′ S., Long. 115° 51′ E. Height above M.S.L. 19.5 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)*	*Wind (height of anemometer 22 metres)*						*Mean amt evaporation (mm)*	*No. days thunder*	*Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)*	*No. clear days*
		Average (km/h)	*Highest mean speed in one day (km/h)*		*Highest gust speed (km/h)*	*Prevailing direction*					
						9 a.m.	*3 p.m.*				
No. of years of record	91	30(*b*)		76	62	30(*b*)	30(*b*)	9(*c*)	79	30(*b*)	30(*b*)
January	1012.6	17.5	48.2	26/76*	81	E	SSW	280	0.9	2.3	14
February	1013.0	17.2	40.8	4/73	113	ENE	SSW	241	0.7	2.5	13
March	1015.2	16.2	51.9	28/75	113	E	SSW	214	0.7	2.8	12
April	1017.9	13.7	50.7	25/00	130	ENE	SSW	124	0.9	3.4	9
May	1017.9	13.5	44.5	8/73	119	NE	WSW	83	1.8	4.3	6
June	1017.5	13.5	48.6	17/27	129	N	NW	59	1.8	4.7	5
July	1018.8	14.2	53.9	20/26	137	NNE	W	58	1.5	4.5	5
August	1018.8	15.1	51.3	15/03	156	N	WNW	75	1.3	4.5	6
September	1018.4	15.1	45.9	11/05	109	ENE	SSW	105	0.7	3.9	8
October	1017.0	16.1	43.0	6/16	105	SE	SW	158	0.8	3.8	8
November	1015.5	17.2	48.2	26/75*	101	E	SW	205	0.8	3.1	9
December	1013.4	17.7	44.5	24/75	103	E	SSW	241	0.9	2.6	13
Year — **Totals**	..	..	..	..	..	..	..	**1,843**	**12.8**	..	**108**
Year — **Averages**	**1016.3**	**15.6**	..	..	..	**E**	**SSW**	..	..	**3.5**	..
Year — **Extremes**	..	..	**53.9**	..	**156**	..	..	..	..	..	..
				20/7/26							

(*a*) Scale 0–8. (*b*) Standard thirty years normal (1911–1940). (*c*) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (° Celsius)*			*Extreme air temperature (° Celsius)*				*Extreme temperature (° Celsius)*				*Mean daily hours sunshine*
	Mean max.	*Mean min.*	*Mean*	*Highest*		*Lowest*		*Highest in sun*		*Lowest on grass*		
No. of years of record	82	82	82		83		83		63(*a*)		31	78
January	29.6	17.7	23.5	44.7	12/78	9.2	20/25	80.7	22/14	4.2	20/25	10.5
February	29.9	17.9	23.7	44.6	8/33	8.7	1/02	78.7	4/34	4.3	1/13	10.0
March	27.8	16.6	22.2	41.3	14/22	7.7	8/03	75.0	19/18	2.6	(*b*)	8.9
April	24.5	14.1	19.2	37.6	9/10	4.1	20/14	69.4	8/16	-0.7	26/60	7.2
May	20.7	11.6	16.1	32.4	2/07	1.3	11/14	63.3	4/25	-3.9	31/64	5.9
June	18.2	9.9	14.1	28.1	5/75	1.6	22/55	57.5	9/14	-3.4	27/46	4.8
July	17.3	9.0	13.2	26.3	17/76	1.2	7/16	56.2	13/15	-3.8	30/20	5.3
August	17.9	9.1	13.5	27.8	21/40	1.9	31/08	62.3	29/21	-3.0	18/66	6.2
September	19.4	10.1	14.8	32.7	30/18	2.6	6/56	67.5	29/16	-2.7	(*c*)	7.2
October	21.2	11.5	16.3	37.3	29/67	4.2	6/68	71.8	19/54	-1.2	16/31	8.3
November	24.6	14.0	19.2	40.3	24/13	5.6	1/04	75.0	30/25	-1.1	6/71	9.7
December	27.3	16.2	21.7	42.3	31/68	8.6	29/57	76.0	11/27	3.3	29/57	10.8
Year — **Averages**	**23.2**	**13.1**	**18.2**	..	..	..	..	..	..	..	..	**7.9**
Year — **Extremes**	..	..	..	**44.6**	..	**1.2**	..	**80.7**	..	**-3.9**	..	..
					8/2/33		**7/7/16**		**22/1/14**		**31/5/64**	

(*a*) Records discontinued 1963. (*b*) 8/1903 and 16/1967. (*c*) 8/1952 and 6/1956.

HUMIDITY, RAINFALL, AND FOG

Month	*Vapour pressure mean 9 a.m. (mb)*	*Rel. hum. (%) at 9 a.m.*			*Rainfall (millimetres)*								*Fog mean No. days*
		Mean	*Highest mean*	*Lowest mean*	*Mean mthly*	*Mean No. of days of rain*	*Greatest monthly*		*Least monthly*		*Greatest in one day*		
No. of years of record	30(*a*)	30(*a*)	79	79	100	100		103		100		100	79
January	14.8	51	63	41	8	3	55	1879	Nil	(*b*)	44	27/79*	0.2
February	14.7	51	65	43	11	3	166	1955	Nil	(*b*)	87	17/55	0.3
March	14.7	57	66	46	20	4	145	1934	Nil	(*b*)	77	9/34	0.6
April	13.4	61	75	51	46	8	149	1926	Nil	1920	67	30/04	0.9
May	12.4	70	81	60	125	14	308	1879	14	1964	76	17/42	1.3
June	11.4	75	85	68	185	17	476	1945	55	1877	99	10/20	1.4
July	10.9	76	88	69	175	18	425	1958	61	1876	76	4/91*	1.6
August	10.7	71	83	62	138	18	318	1945	12	1902	74	14/45	1.0
September	11.6	66	75	58	81	14	199	1923	9	1916	47	18/66	0.3
October	11.7	60	75	52	55	11	200	1890	1	1969	55	1/75	0.4
November	12.7	52	66	41	21	6	71	1916	Nil	1891	39	29/56	0.2
December	13.9	51	63	39	14	4	81	1951	Nil	(*b*)	47	3/51	0.2
Year — **Totals**	..	..	..	..	**879**	**120**	..	..	..	..	..	..	**8.1**
Year — **Averages**	**12.7**	**62**	..	..	..	..	..	..	..	..	..	..	..
Year — **Extremes**	..	..	**88**	**39**	..	..	**476**	..	**Nil**	(*b*)	**99**	..	..
								6/1945				**10/6/20**	

(*a*) Standard thirty years normal (1911–1940). (*b*) Various years.

Figures such as 26/76, 29/56, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk(*) relate to nineteenth century.

CLIMATIC DATA: DARWIN, NORTHERN TERRITORY

(Lat. 12° 28'S., Long. 130° 51'E. Height above M.S.L. 30 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 36 metres)					Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)	No. of clear days
		Average (km/h)	Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.				
No. of years of record	90	20	..	23(b)	..	..	8(c)	35	35	35
January	1,006.2	9.3	..	106	W	NW	225	12.9	5.9	1
February	1,006.3	10.6	..	101	W	NW	187	10.2	5.8	1
March	1,007.2	7.5	..	157	W	NW	190	10.6	5.2	3
April	1,009.3	8.8	..	67	SE	NW	218	4.0	2.9	10
May	1,010.9	9.6	..	62	SE	E	223	0.5	2.0	16
June	1,012.2	10.1	..	64	SE	E	206	0.0	1.4	19
July	1,012.8	8.9	..	62	SE	E	229	0.0	1.3	20
August	1,012.6	8.6	..	72	SE	NW	238	0.0	1.1	20
September	1,011.7	8.6	..	64	ENE	NW	270	1.0	1.8	16
October	1,010.5	9.8	..	85	NE	NW	285	5.3	2.7	9
November	1,008.7	8.6	..	117	NW	NW	260	11.8	3.9	4
December	1,006.9	9.8	..	217	NW	NW	240	14.2	4.9	2
Year Totals	..	..	..	..	..	..	**2,773**	**70.5**	..	**121**
Year Averages	**1,009.6**	**9.2**	..	..	SE	NW	..	..	**3.2**	..
Year Extremes	..	..	..	**217**	..	..	..	..	..	..

(a) Scale 0–8. (b) Several incomplete years. (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)				Extreme temperature (°Celsius)			Mean daily hours sunshine
	Mean max.	Mean min.	Mean	Highest		Lowest		Highest in sun		Lowest on grass	
No. of years of record	90	90	90		93(a)		93(a)		26(b)	..	21
January	32.2	25.0	28.6	37.8	2/82*	20.0	20/92*	75.6	26/42	..	5.9
February	31.9	24.8	28.4	38.3	20/87*	17.2	25/49	73.2	(c)	..	5.9
March	32.4	24.8	28.6	38.9	(d)	19.2	31/45	74.3	23/38	..	6.8
April	33.1	24.2	28.7	40.0	7/83*	16.0	11/43	72.8	1/38	..	8.6
May	32.3	22.4	27.4	39.1	8/84*	(e)14.2	28/67	71.2	5/20	..	9.3
June	30.9	20.4	25.7	39.0	17/37	12.1	23/63	68.5	2/16	..	9.7
July	30.4	19.6	25.1	36.7	17/88*	10.4	29/42	68.9	28/17	..	9.8
August	31.4	20.8	26.1	37.0	30/71*	13.6	11/63	69.1	28/16	..	10.4
September	32.7	23.2	27.9	38.9	20/82*	16.7	9/63	69.5	(f)	..	10.0
October	33.6	25.0	29.3	40.5	17/92*	19.4	8/66	71.4	30/38	..	9.5
November	33.8	25.3	29.6	39.6	9/84*	19.3	4/50	77.0	14/37	..	8.6
December	33.2	25.3	29.3	38.9	20/82*	18.3	4/60	76.2	26/23	..	7.1
Year Averages	**32.3**	**23.3**	**27.9**	..	..	..	..	..	..	..	**8.5**
Year Extremes	..	..	..	**40.5** **17/10/1892**	..	**10.4** **29/7/1942**	..	**77.0** **14/11/37**	..	..	..

(a) Years 1882–1941 at Post Office; 1942–1966 at Aerodrome; 1967–1978 at Regional office; sites not strictly comparable. (b) Records discontinued 1942. (c) 5/1938 and 23/1938. (d) 26/1883 and 27/1883. (e) Recorded at Darwin Aerodrome. All other Statistics from 1967 to 1971 at Regional Office. (f) 28/1916 and 3/1921.

HUMIDITY, RAINFALL AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)								Fog mean No. days
		Mean	Highest mean	Lowest mean	Mean mthly	Mean No. of days of rain	Greatest monthly		Least monthly		Greatest in one day		
No. of years of record	85(a)	90	57(b)	57(b)	86(c)	74		108(d)		108(d)		107(d)	35
January	31.1	81	89	69	391	19	746	1974	68	1906	296	7/97*	0.0
February	31.1	81	88	71	330	18	815	1969	13	1931	279	18/55	0.0
March	30.7	80	84	69	260	17	1014	1977	21	1911	241	16/77	0.0
April	27.0	72	80	60	103	8	603	1891	Nil	1950	158	4/59	0.0
May	21.8	65	76	49	14	1	356	1968	Nil	(e)	56	6/22	0.0
June	18.7	63	75	52	3	0	76	1973	Nil	(e)	36	0/02	0.4
July	17.6	62	71	47	1	0	65	1900	Nil	(e)	43	12/00	1.1
August	20.6	66	73	53	2	0	84	1947	Nil	(e)	80	2/47	0.8
September	24.7	68	73	54	13	2	108	1942	Nil	(e)	71	21/42	0.2
October	27.7	68	72	60	50	5	339	1954	Nil	(e)	95	28/56	0.0
November	29.3	70	75	62	126	11	399	1938	10	1870	120	19/51	0.0
December	30.5	75	83	65	243	16	665	1974	25	1934	279	25/74	0.0
Year Totals	..	..	..	..	**1,536**	**97**	..	..	..	..	..	..	**2.5**
Year Averages	**25.9**	**71**	..	..	..	..	..	..	..	..	..	..	..
Year Extremes	..	..	**89**	**47**	..	..	**1014**	**3/77**	**Nil**	(f)	**296** **7/1/1897**	..	..

(a) Records to 1966 at Aerodrome. (b) 1882 to 1938 at Post Office. (c) 1869 to 1962 at Post Office; 8 years missing. (d) Highest or lowest at either Post Office, Aerodrome or Regional Office Sites. (e) Various years. (f) April to October. Various years.

Figures such as 2/82, 26/42, etc., indicate in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: ADELAIDE, SOUTH AUSTRALIA

(Lat. 34° 46' S., Long. 138° 35' E. Height above M.S.L. 43 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	*Wind (height of anemometer 22 metres)* Average (km/h)	Highest mean speed in one day (km/h)		Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.	Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)	No. of clear days
No. of years of record	119	20(b)	20(b)		61	30(c)	30(c)	9(d)	104	108	61
January	1,013.2	12.8	32.2	12/70	116	SW	SW	261	1.5	3.0	12.0
February	1,014.3	12.1	28.8	25/67	106	NE	SW	224	1.1	3.0	10.7
March	1,017.2	11.4	30.7	24/64	126	S	SW	180	0.8	3.3	10.7
April	1,019.8	11.4	37.4	10/56	130	NE	SW	126	1.0	4.2	6.8
May	1,020.1	11.3	37.8	19/53	113	NE	NW	80	1.0	4.7	4.5
June	1,019.8	11.6	29.7	16/70	108	NE	N	57	0.9	5.0	3.8
July	1,019.9	11.8	32.9	13/64	148	NE	NW	61	0.8	4.9	3.5
August	1,019.0	12.8	38.2	8/55	121	NE	SW	76	1.1	4.2	4.7
September	1,017.6	13.2	34.9	16/65	111	NNE	SW	113	1.3	4.3	5.5
October	1,016.0	13.6	35.4	1/68	121	NNE	SW	169	1.9	4.2	5.6
November	1,015.1	13.9	36.3	14/68	130	SW	SW	202	2.0	3.9	6.5
December	1,013.3	13.5	31.1	18/69	121	SW	SW	247	1.5	3.4	8.8
Year Totals	..	..	..	..	..	..	..	**1,795**	**14.9**	..	**83.1**
Averages	**1,017.1**	..	..	..	..	**NE**	**SW**	..	..	**4.0**	..
Extremes	..	..	**38.2**	**8/8/65**	**148**	..	..	..	..	..	..

(a) Scale 0–8. (b) Records of cup anemometer. (c) Standard 30 years normal (1931–1960). (d) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (° Celsius)* Mean max.	Mean min.	Mean	*Extreme air temperature (° Celsius)* Highest		Lowest		*Extreme temperature (° Celsius)* Highest in sun		Lowest on grass		Mean daily hours sunshine
No. of years of record	119	119	119		122		122		54(a)		117	94
January	29.6	16.4	23.0	47.6	12/39	7.3	21/84*	82.3	18/82*	1.8	3/77	9.9
February	29.4	16.6	23.0	45.3	12/99*	7.5	23/18	76.9	10/00	2.1	23/26	9.3
March	26.9	15.1	21.0	43.6	9/34	6.6	21/33	78.9	17/83*	0.1	21/33	7.9
April	22.7	12.7	17.7	37.0	5/38	4.2	15/59*	68.3	1/83*	−3.5	30/77	6.0
May	18.7	10.3	14.5	31.9	4/21	2.7	(b)	64.6	12/79*	−3.6	19/28	4.8
June	15.8	8.3	12.1	25.6	4/57	0.3	(c)	59.3	18/79*	−6.1	24/44	4.2
July	15.0	7.3	11.1	26.6	29/75	0.0	24/08	56.9	26/90*	−5.5	30/29	4.3
August	16.4	7.8	12.1	29.4	31/11	0.2	17/59*	60.0	31/92*	−5.1	11/29	5.3
September	18.9	9.0	14.0	35.1	30/61	0.4	4/58*	71.4	23/82*	−3.9	25/27	6.2
October	22.0	10.9	16.5	39.4	21/22	2.3	20/58*	72.2	30/21	−3.0	22/66	7.2
November	25.2	12.9	19.1	45.3	21/65*	4.9	2/09	74.9	20/78*	−0.6	17/76	8.6
December	27.8	14.9	21.4	45.9	29/31	6.1	(d)	79.8	7/99*	−1.0	19/76*	9.4
Year Averages	**22.4**	**11.8**	**17.1**	..	..	..	..	..	..	..	..	**6.9**
Extremes	..	..	..	**47.6**	..	**0.0**	..	**82.3**	..	**−6.1**	..	..
					12/1/39		**24/7/08**		**18/1/62**		**24/6/44**	

(a) Discontinued 1934 incomplete 1931–1934. (b) 26/1895 and 24/04. (c) 27/1876 and 24/44. (d) 16/1861 and 4/06.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	*Rel. hum. (%) at 9 a.m.* Mean	Highest mean	Lowest mean	*Rainfall (millimetres)* Mean mthly	Mean No. of days of rain	Greatest monthly		Least monthly		Greatest in one day		Fog mean no. days
No. of years of record	108	108	108	108	137	137		140		140		140	76
January	11.9	41	59	29	20	4	84	1941	Nil	(a)	58	2/89*	0.0
February	12.5	44	61	30	21	4	155	1925	Nil	(a)	141	7/25	0.0
March	12.0	47	62	29	24	5	117	1878	Nil	(a)	89	5/78*	0.0
April	11.5	57	72	37	44	9	154	1971	Nil	1945	80	5/60*	0.0
May	10.8	67	77	49	69	13	197	1875	3	1934	70	1/53*	0.4
June	10.0	75	84	63	72	15	218	1916	6	1958	54	1/20	1.1
July	9.5	76	87	66	67	16	138	1890	10	1899	44	10/65*	1.3
August	9.7	70	80	54	62	16	157	1852	8	1944	57	19/51*	0.6
September	10.0	61	72	44	51	13	148	1923	7	1951	40	20/23	0.2
October	10.2	52	67	29	44	11	133	1949	1	1969	57	16/08	0.0
November	10.5	45	64	31	31	8	113	1839	1	1967	75	12/60	0.0
December	11.3	42	56	31	26	6	101	1861	Nil	1904	61	23/13	0.0
Year Totals	..	..	..	..	**531**	**120**	..	..	..	..	..	..	**3.6**
Averages	**10.5**	**56**	..	..	..	..	..	..	..	..	..	..	..
Extremes	..	..	**87**	**29**	..	..	**218**	..	**Nil**	(b)	**141**	..	..
								6/1916				**7/2/25**	

(a) Various years. (b) December to April, various years.

Figures such as 3/55, 21/84, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: BRISBANE, QUEENSLAND

(Lat. 27° 28' S., Long. 153° 2' E. Height above M.S.L. 41 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	*Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)*	*Wind (height of anemometer 32 metres)* Average (km/h)	*Highest mean speed in one day (km/h)*		*Highest gust speed (km/h)*	*Prevailing direction* 9 a.m.	3 p.m.	*Mean amt evaporation (mm)*	*No. days thunder*	*Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)*	*No. clear days*
No. of years of record	89	60		61	61	25(b)	25(b)	9(c)	89	84	68
January	1,011.7	12.1	31.8	23/47	109	SE	ENE	189	4.6	4.6	3.3
February	1,012.5	11.9	37.3	21/52	108	SSW	ENE	150	3.7	4.8	2.4
March	1,014.6	11.4	32.7	1/29	106	SSW	ESE	149	2.3	4.3	5.6
April	1,017.3	10.5	26.8	3/25	104	SW	ESE	127	1.4	3.6	7.8
May	1,018.3	9.8	28.8	17/26	87	SW	WSW	89	0.6	3.3	10.0
June	1,018.5	10.0	30.5	14/28	95	SW	WSW	70	0.5	3.3	10.5
July	1,018.8	9.7	35.4	13/54	111	SW	WSW	77	0.4	2.9	13.3
August	1,018.8	10.0	23.8	4/35	100	SW	NE	105	1.4	2.6	13.5
September	1,017.6	10.5	25.9	1/48	102	SW	NE	133	2.8	2.8	12.4
October	1,015.9	11.1	25.3	1/41	100	SSW	NE	168	4.4	3.5	8.5
November	1,014.1	11.4	24.9	10/28	111	SE	NE	191	5.7	3.9	6.1
December	1,012.1	11.9	31.3	15/26	127	SSE	NE	209	6.6	4.3	4.5
Year **Totals**	..	..	..	..	..	..	..	**1,656**	**34.2**	..	**97.7**
Averages	**1,015.9**	**10.8**	..	..	..	**SW**	**ENE**	..	..	**3.6**	..
Extremes	..	..	**37.3**	..	**128**	..	..	..	..	..	..
			21/2/52								

(*a*) Scale 0–8. (*b*) 1950–1974. (*c*) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (° Celsius)* Mean max.	Mean min.	Mean	*Extreme air temperature (° Celsius)* Highest		Lowest		*Extreme temperature (° Celsius)* Highest in sun		Lowest on grass		*Mean daily hours sunshine*
No. of years of record	89	89	89		90		90		50(a)		90	67
January	29.4	20.6	25.0	43.2	26/40	14.9	4/93*	76.2	2/37	9.9	4/93*	7.5
February	28.9	20.4	24.7	40.9	21/25	14.7	21/31	74.0	6/10	9.5	22/31	7.0
March	27.8	19.2	23.5	38.8	13/65	11.3	29/13	72.5	6/39	7.4	29/13	6.8
April	26.0	16.4	21.2	36.1	19/73	6.9	25/25	67.7	11/16	2.6	24/25	7.1
May	23.1	13.1	18.0	32.4	21/23	4.8	30/51	63.9	1/10	-1.2	8/97*	6.8
June	20.8	10.7	15.7	31.6	19/18	2.4	29/08	57.8	3/18	-3.7	23/88*	6.6
July	20.3	9.4	14.9	29.1	23/46	2.3	(b)	63.4	20/15	-4.5	11/90	7.0
August	21.8	10.0	15.9	32.8	14/46	2.7	13/64	61.1	20/17	-2.7	9/99*	7.8
September	24.0	12.7	18.3	38.3	22/43	4.8	1/96	68.6	26/03	-0.9	1/89*	8.3
October	26.1	15.8	20.9	40.7	30/58	6.3	3/99*	69.7	31/18	1.6	8/89*	8.2
November	27.8	17.9	22.9	41.2	18/13	9.2	2/05	72.4	7/89*	3.8	1/05	8.2
December	29.1	19.6	24.5	41.1	26/93*	13.5	5/55	74.4	28/42	9.5	3/94*	8.1
Year **Averages**	**25.4**	**15.5**	**20.5**	..	..	..	..	..	..	..	..	**7.5**
Extremes	..	..	..	**43.2**	..	**2.3**	...	**76.2**	..	**-4.5**	..	..
					26/1/1940				**2/1/1937**		**11/7/1890**	

(*a*) 1887–1926, 1936–March 1947. (*b*) 12/1894 and 2/1896.

HUMIDITY, RAINFALL, AND FOG

Month	*Vapour pressure mean 9 a.m. (mb)*	*Rel. hum. (%) at 9 a.m.* Mean	Highest mean	Lowest mean	*Rainfall (millimetres)* Mean mthly	Mean No. of days of rain	Greatest monthly		Least monthly		Greatest in one day		*Fog mean No. days*
No. of years of record	64	89	90	90	124	116		124		124		124	89
January	21.7	65	79	53	167	13	872	1974	8	1919	465	21/87*	0.5
February	22.0	69	82	55	161	14	1,026	1893	15	1849	270	6/31	0.6
March	20.9	71	85	56	144	15	865	1870	Nil	1849	284	14/08	1.1
April	17.5	70	80	56	88	11	388	1867	1	1944	178	3/72	2.1
May	14.3	71	85	59	69	9	352	1876	Nil	1846	143	9/79*	3.0
June	12.1	72	84	54	69	8	647	1967	Nil	1847	283	12/67	2.9
July	11.1	70	88	53	54	7	330	1973	Nil	(a)	193	20/65	3.0
August	11.7	66	80	53	48	7	373	1879	Nil	(b)	124	12/87*	3.6
September	13.8	63	76	47	48	8	138	1886	3	1907	79	12/65	2.5
October	16.0	60	72	48	74	9	456	1972	(c)	1948	136	25/49	1.2
November	18.1	59	72	45	95	10	315	1917	Nil	1842	143	8/66*	0.5
December	20.1	61	70	51	129	12	441	1942	9	1865	168	28/71*	0.3
Year **Totals**	..	..	..	..	**1,157**	**123**	..	..	..	..	..	..	**21.3**
Averages	**16.6**	**66**	..	..	..	..	..	..	..	..	..	..	..
Extremes	..	..	**88**	**45**	..	..	**1,026**	..	**Nil**	..	**465**	..	..
								2/1893		**Various**		**21/1/1887**	

(*a*) 1841 and 1951. (*b*) 1862, 1869, 1880 and 1977. (*c*) Less than 1 mm.

Figures such as 23/47, 4/93, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: SYDNEY, NEW SOUTH WALES

(Lat. 33° 52′ S., Long. 151° 12′ E. Height above M.S.L. 42 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	*Wind (height of anemometer 22 metres)*						Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)	No. clear days
		Average (km/h)	Highest mean speed in one day (km/h)		Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.				
No. of years of record	66	25(*b*)		25(*b*)	25(*b*)	25(*b*)	25(*b*)	6(*c*)	56	114	65
January	1,012.7	12.3	30.3	10/49	150	NE	NE	186	3.3	4.7	4.9
February	1,014.2	11.6	30.3	18/57	101	NE	ENE	169	2.5	4.8	4.5
March	1,016.4	10.5	33.3	10/44	93	WNW	ENE	186	1.7	4.4	5.7
April	1,018.3	10.2	36.2	24/44	116	W	ENE	180	1.3	4.1	7.3
May	1,018.7	10.5	33.8	18/55	101	W	ENE	186	0.9	3.9	7.7
June	1,018.9	11.6	36.0	10/47	135	W	WSW	180	0.8	4.0	8.0
July	1,018.5	11.5	34.3	20/51	106	W	WSW	186	0.8	3.5	10.5
August	1,017.9	12.1	39.6	9/51	109	WNW	WNW	155	1.4	3.3	10.4
September	1,017.0	11.6	35.1	23/42	113	WNW	NE	150	1.8	3.5	9.1
October	1,015.1	12.3	39.4	1/57	153	WNW	ENE	155	2.7	4.1	6.5
November	1,013.4	12.4	31.9	21/54	114	WNW	ENE	150	3.6	4.5	5.2
December	1,012.1	12.3	36.2	11/52	121	NE	ENE	155	3.8	4.6	4.8
Year Totals	..	..	..	..	..	..	..	**2,038**	**24.7**	..	**84.7**
Year Averages	**1,016.1**	**11.6**	..	..	..	**WNW**	**ENE**	..	..	**4.2**	..
Year Extremes	..	..	**39.6**	..	**153**	..	..	..	..	..	..
				9/8/51							

(*a*) Scale 0–8. (*b*) Years 1938–1962 inclusive. (c) Sydney Airport, Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (° Celsius)*			*Extreme air temperature (° Celsius)*				*Extreme temperature (° Celsius)*				Mean daily hours sunshine
	Mean max.	Mean min.	Mean	Highest		Lowest		Highest in sun		Lowest on grass		
No. of years of record	117	117	117		117	117	117		84(*a*)		117	55
January	25.7	18.3	22.0	45.3	14/39	10.6	18/49	73.5	26/15	6.5	6/25	7.2
February	25.4	18.4	21.9	42.1	8/26	9.6	28/63*	76.3	14/39	6.0	22/33	6.8
March	24.5	17.3	20.9	39.2	3/69*	9.3	14/86*	70.2	10/26	4.4	17/13	6.3
April	22.1	14.5	18.3	33.0	(*b*)	7.0	27/64*	62.3	10/77*	0.7	24/09	6.2
May	19.2	11.2	15.2	30.0	1/19	4.4	30/62*	54.3	1/96*	-1.5	25/17	5.8
June	16.6	9.1	12.8	26.9	11/31	2.1	22/32	52.1	2/23	-2.2	22/32	5.2
July	15.8	7.8	11.8	25.7	22/26	2.2	12/90*	51.9	19/77*	-4.4	4/93*	6.2
August	17.4	8.7	13.1	30.4	24/54	2.7	3/72*	65.0	30/78*	-3.3	4/09	6.8
September	19.6	10.8	15.2	34.6	26/65	4.9	2/45	61.2	12/78*	-1.1	17/05	7.1
October	21.9	13.3	17.6	37.4	4/42	5.7	6/27	66.8	20/33	0.4	9/05	7.3
November	23.5	15.3	19.4	40.3	6/46	7.7	1/05	70.3	28/99*	1.9	21/67	7.6
December	24.9	17.2	21.1	42.2	20/57	9.1	3/24	73.5	27/89*	5.2	3/24	7.4
Year Averages	**21.4**	**13.6**	**17.4**	..	..	..	..	..	..	..	..	**6.7**
Year Extremes	..	..	..	**45.3**	..	**2.1**	..	**76.3**	..	**-4.4**	..	..
					14/1/39		**22/6/32**		**14/2/39**		**4/7/1893**	

(*a*) Records discontinued 1946. (*b*) 1/36 and 10/69.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	*Rel. hum. (%) at 9 a.m.*			*Rainfall (millimetres)*								Fog mean No. days
		Mean	Highest mean	Lowest mean	Mean mthly	Mean No. of days of rain	Greatest monthly		Least monthly		Greatest in one day		
No. of years of record	100	100	100	100	117	117		117		117		117	55
January	18.8	68	78	58	100	13	388	1911	6	1932	180	13/11	0.3
February	19.2	70	81	60	115	13	564	1954	3	1939	226	25/73*	0.6
March	18.3	74	85	62	131	14	521	1942	8	1965	281	28/42	1.5
April	15.0	74	87	63	126	13	622	1861	2	1868	191	29/60*	2.1
May	11.9	75	90	63	123	13	585	1919	4	1957	212	28/89*	3.1
June	10.2	76	89	63	133	12	643	1950	4	1962	131	16/84*	2.7
July	9.6	74	88	59	104	11	336	1950	2	1970	198	7/31	2.1
August	9.5	68	84	54	81	11	378	1899	1	1885	140	22/71	1.7
September	11.3	66	79	49	69	11	357	1879	2	1882	145	10/79*	0.9
October	13.0	62	77	46	76	12	283	(*a*)	2	1971	162	13/02	0.6
November	15.0	62	79	42	78	12	577	1961	2	1915	133	27/55	0.5
December	17.6	64	77	51	79	13	402	1920	6	1913	121	13/10	0.4
Year Totals	..	..	..	..	**1,215**	**148**	..	..	..	..	..	..	**16.3**
Year Averages	**14.1**	**69**	..	..	..	..	..	..	..	..	..	..	..
Year Extremes	..	..	**90**	**42**	..	..	**643**	**6/1950**	**1**	**8/1885**	**281**	..	..
												28/3/1942	

(*a*) 1916 and 1959.

Figures such as 10/49, 28/63, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk(*) relate to nineteenth century.

CLIMATIC DATA: CANBERRA, AUSTRALIAN CAPITAL TERRITORY

(Lat. 35° 19′ S., Long. 149° 11′ E. Height above M.S.L. 577 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	*Wind (height of anemometer 10 metres)* Average (km/h)	Highest mean speed in one day (km/h)		Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.	Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)	No. clear days
No. of years of record	36	44(b)		47(b)	39(c)	36(c)	36(c)	8(d)	36	36	36(e)
January	1,012.1	6.6	24	24/33	121	NW	NW	242	3.3	4.1	7.7
February	1,013.1	6.1	25	24/33	104	NW	NW	194	3.0	4.4	6.5
March	1,016.0	5.3	29	28/42	111	SE	NW	165	1.7	4.2	7.6
April	1,018.8	5.0	30	8/45	106	NW	NW	109	0.8	4.2	6.9
May	1,019.0	4.4	21	27/58	104	NW	NW	71	0.4	4.5	6.7
June	1,021.0	4.8	26	2/30	96	NW	NW	46	0.2	4.6	6.5
July	1,020.2	5.0	38	7/31	102	NW	NW	54	0.1	4.4	7.0
August	1,018.5	5.9	25	25/36	113	NW	NW	77	0.8	4.4	6.7
September	1,017.4	6.0	28	28/34	107	NW	NW	115	1.1	4.1	7.9
October	1,014.8	6.5	23	12/57	119	NW	NW	165	2.2	4.4	6.1
November	1,011.9	6.9	28	28/42	128	NW	NW	200	3.3	4.4	5.7
December	1,010.7	6.9	26	11/38	106	NW	NW	259	3.4	4.1	7.5
Year **Totals**	..	..	..	..	..	..	..	**1,697**	**20.3**	..	**82.8**
Year **Averages**	**1,016.1**	**5.8**	..	..	..	**NW**	**NW**	..	..	**4.3**	**6.9**
Year **Extremes**	..	..	**38**	**7/7/31**	**128**	..	..	..	..	..	..

(*a*) Scale 0–8. (*b*) Recorded at Forestry and Timber Bureau, Yarralumla, where a cup anemometer is installed. (*c*) Recorded at Meteorological office, R.A.A.F. Fairbairn, where a Dines Pressure Tube anemometer is installed. (*d*) Class-A Pan. (*e*) 1940–75. Formerly assessed over 37-year period at Yarralumla.

TEMPERATURE AND SUNSHINE

Month	*Air temperature daily readings (°Celsius)* Mean max.	Mean min.	Mean	*Extreme air temperature (°Celsius)* Highest		Lowest		*Extreme temperature (°Celsius)* Highest in sun	Lowest on grass		Mean daily hours sunshine
No. of years of record	36	36	36		39		39	..		27	37
January	27.5	12.9	20.2	41.4	31/68	1.8	1/56	..	−0.4	1/56	8.9
February	26.6	12.6	19.6	42.2	1/68	3.0	16/62	..	0.2	17/70	8.2
March	24.3	10.4	17.3	36.4	9/40	−1.1	24/67	..	−4.0	(*a*)	7.5
April	19.6	6.5	13.1	32.6	12/68	−3.3	26/72	..	−8.3	24/69	6.9
May	14.9	2.8	8.9	24.5	10/67	−7.5	30/76	..	−10.4	26/69	5.6
June	12.0	0.8	6.4	20.1	3/57	−8.5	8/57	..	−13.4	25/71	4.8
July	11.1	−0.3	5.4	19.7	29/75	−10.0	11/71	..	−15.1	11/71	5.1
August	12.6	0.8	6.7	21.7	24/54	−7.8	6/74	..	−12.8	11/69	6.1
September	15.8	2.7	9.3	28.6	26/65	−5.6	5/40	..	−10.6	12/71	7.4
October	19.0	5.8	12.4	32.7	13/46	−3.3	4/57	..	−6.2	4/57	7.9
November	22.2	8.2	15.1	38.8	19/44	−1.8	28/67	..	−6.3	28/67	8.7
December	26.0	11.1	18.6	38.8	21/53	1.1	18/64	..	−3.9	18/64	9.1
Year **Averages**	**19.3**	**6.2**	**12.7**	..	..	..	..	..	..	..	**7.2**
Year **Extremes**	..	..	..	**42.2**	.. **1/2/68**	**−10.0**	.. **11/7/71**	..	**−15.1**	.. **11/7/71**	..

(*a*) 30/58 and 24/67.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	*Rel. hum (%) at 9 a.m.* Mean	Highest mean	Lowest mean	*Rainfall (millimetres)* Mean mthly	Mean No. of days of rain	Greatest monthly		Least monthly		Greatest in one day		Fog mean No. days
No. of years of record	36(*a*)	36	36	36	36	36		39		39		39	36
January	13.1	60	75	42	61	8	164	1941	1	1947	95	12/45	1.1
February	14.0	65	81	53	59	7	148	1977	Nil	1968	69	20/74	1.2
March	13.1	69	81	53	51	7	312	1950	1	1954	66	5/59	2.8
April	10.7	75	84	38	50	8	164	1974	2	1942	75	2/59	4.1
May	8.7	84	96	73	51	9	150	1953	1	1976	96	3/48	7.5
June	7.1	85	97	73	39	9	126	1956	5	1971	45	25/56	7.6
July	6.6	84	93	68	38	10	103	1960	4	1970	35	10/57	7.7
August	7.1	80	92	58	47	12	156	1974	7	1944	48	29/74	5.0
September	8.1	74	82	55	50	10	116	1970	6	1946	41	16/62	4.1
October	10.0	67	82	50	73	12	161	1976	2	1977	105	21/59	3.1
November	10.7	59	76	38	64	10	135	1961	4	1977	64	9/50	1.4
December	12.3	59	74	43	56	8	215	1947	Nil	1967	87	30/48	0.6
Year **Totals**	..	..	..	..	**639**	**110**	..	..	..	..	..	..	**46.2**
Year **Averages**	**9.3**	**72**	..	..	..	..	..	..	..	..	..	..	..
Year **Extremes**	..	..	**97**	**38**	..	..	**312**	**3/50**	**Nil**	(*b*)	**105**	.. **21/10/59**	..

(*a*) Formerly assessed over 38-year period at Forestry and Timber Bureau, Yarralumla. (*b*) 12/67 and 2/68.

Data shown in the above tables relate to the Meteorological Office, R.A.A.F., Fairbairn, except where otherwise indicated, and generally cover years up to 1976.

Figures such as 24/33, 31/68, etc., indicate, in respect of the month of reference, the day and year of the occurrence.

CLIMATIC DATA: MELBOURNE, VICTORIA

(Lat. 37° 49′ S., Long. 144° 58′ E. Height above M.S.L. 35 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 28 metres)						Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 am., 3 p.m., 9 p.m. (a)	No. clear days
		Average (km/h)	Highest mean speed in one day (km/h)		Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.				
No. of years of record	119	36(b)		66	69	57	57	9(c)	68	119	68
January	1,012.8	12.8	34.0	27/41	106	S	S	228	1.7	4.1	6.7
February	1,014.3	12.4	30.6	13/47	119	S	S	198	1.9	4.0	6.1
March	1,016.8	11.3	29.0	3/61	106	N	S	155	1.3	4.3	5.5
April	1,018.9	10.9	33.7	27/71	108	N	S	97	0.7	4.7	4.2
May	1,019.1	11.4	33.0	4/61	116	N	N	59	0.4	5.2	2.9
June	1,019.0	11.4	36.7	16/47	103	N	N	38	0.2	5.3	2.8
July	1,018.6	12.8	36.9	24/70	109	N	N	47	0.2	5.2	2.5
August	1,017.5	12.5	34.3	20/42	108	N	N	60	0.6	5.0	2.7
September	1,016.0	12.7	34.0	15/64	111	N	S	91	0.8	4.8	3.6
October	1,014.7	12.8	30.4	6/68	111	N	S	130	1.6	4.8	3.4
November	1,013.9	13.3	35.8	8/71	114	SW	S	161	1.9	4.9	3.2
December	1,012.4	13.1	33.8	12/52	100	S	S	209	2.2	4.5	4.4
Totals	..	..	..	..	..	..	..	**1,468**	**13.4**	..	**48.0**
Year Averages	**1,016.2**	**12.3**	..	..	..	**N**	**S**	..	..	**4.7**	..
Extremes	..	..	**36.9**	.. **24/7/70**	**119**	..	..	..	..	..	..

(a) Scale 0–8. (b) Early records not comparable. (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (° Celsius)			Extreme air temperature (° Celsius)				Extreme temperature (° Celsius)				Mean daily hours sunshine
	Mean max.	Mean min.	Mean	Highest		Lowest		Highest in sun		Lowest on grass		
No. of years of record	120	120	120		123		123		86(a)		119	52(b)
January	25.8	13.9	19.9	45.6	13/39	5.6	28/85*	81.4	14/62*	−1.0	28/85*	8.1
February	25.7	14.2	19.9	43.1	7/01	4.6	24/24	75.3	15/70*	−0.6	6/91*	7.5
March	23.7	12.8	18.3	41.7	11/40	2.8	17/84*	73.6	1/68*	−1.7	(c)	6.6
April	20.1	10.5	15.3	34.9	5/38	1.6	24/88*	66.7	8/61*	−3.9	23/97*	5.1
May	16.5	8.3	12.4	28.7	7/05	−1.2	29/16	61.4	2/59*	−6.1	26/16	3.9
June	13.9	6.6	10.3	22.4	2/57	−2.2	11/66	53.9	11/61*	−6.7	30/29	3.4
July	13.3	5.7	9.5	23.1	30/75	−2.8	21/69*	52.1	27/80*	−6.4	12/03	3.7
August	14.8	6.4	10.6	25.0	20/85*	−2.1	11/63*	58.6	29/69*	−5.9	14/02	4.6
September	17.1	7.6	12.4	31.4	28/28	−0.6	3/40	61.2	20/67*	−5.1	8/18	5.5
October	19.5	9.2	14.4	36.9	24/14	0.1	3/71*	67.9	28/68*	−4.0	22/18	5.9
November	21.8	10.8	16.3	40.9	27/94*	2.4	2/96*	70.9	29/65*	−4.1	2/96*	6.5
December	24.1	12.6	18.4	43.7	15/76	4.4	4/70*	76.8	20/69*	0.7	1/04	7.3
Year Averages	**19.9**	**9.9**	**14.8**	..	..	..	..	..	..	..	..	**5.7**
Extremes	..	..	..	**45.6**	.. **13/1/39**	**−2.8**	.. **21/7/69**	**81.4**	.. **14/1/62**	**−6.7**	.. **30/6/29**	..

(a) Discontinued 1946. (b) Discontinued 1967. (c) 17/1884 and 20/1897.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)								Fog mean no. days
		Mean	Highest mean	Lowest mean	Mean mthly	Mean no. of days of rain	Greatest monthly		Least monthly		Greatest in one day		
No. of years of record	68	68	71	71	120	120		123		123		122	118
January	13.1	61	68	50	48	8	176	1963	(a)	1932	108	29/63	0.1
February	14.1	63	77	48	50	7	238	1972	(a)	1965	87	26/46	0.3
March	13.3	66	79	50	54	9	191	1911	4	1934	90	5/19	0.7
April	11.7	72	82	66	59	11	195	1960	Nil	1923	80	23/60	1.8
May	10.3	79	88	69	57	14	142	1942	4	1934	51	15/74	3.6
June	9.3	83	92	73	50	14	114	1859	8	1858	44	22/04	4.6
July	8.9	81	87	73	49	15	178	1891	15	1902	74	12/91*	4.3
August	9.1	75	82	64	50	15	111	1939	12	1903	54	17/81*	2.3
September	9.5	68	76	60	59	14	201	1916	13	1907	59	23/16	0.8
October	10.5	63	72	52	68	14	193	1869	7	1914	61	21/53	0.4
November	11.3	61	73	52	59	12	206	1954	6	1895	73	21/54	0.2
December	12.5	60	72	48	58	10	182	1863	1	1972	100	4/54	0.2
Totals	..	..	..	..	**661**	**143**	..	..	..	..	..	..	**19.3**
Year Averages	**11.1**	**69**	..	..	..	..	..	..	..	..	..	..	..
Extremes	..	..	**92**	**43**	..	..	**238**	**2/72**	**Nil**	**4/23**	**108**	.. **29/1/63**	..

(a) Less than 1 mm.

Figures such as 27/41, 28/85, etc., indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: HOBART, TASMANIA

(Lat. 42° 53' S., Long. 147° 20' E. Height above M.S.L. 54 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 12 metres)						Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)	No. of clear days
		Average (km/h)	Highest mean speed in one day (km/h)		Highest gust speed (km/h)	Prevailing direction 9 a.m.	Prevailing direction 3 p.m.				
No. of years of record	90	63		68	93	30(*b*)	30(*b*)	10(*c*)	64	90	30(*b*)
January	1,010.6	12.6	33.5	30/16	130	NNW	SSE	167	1.0	5.0	1.9
February	1,012.9	11.5	40.6	4/27	121	NNW	SSE	135	1.0	4.9	2.3
March	1,014.3	11.0	34.4	13/38	127	NW	SSE	109	0.7	4.8	2.4
April	1,015.5	10.9	38.8	9/52	141	NW	W	70	0.3	5.0	1.7
May	1,015.4	10.4	35.4	21/65	135	NNW	NW	38	0.0	5.0	2.4
June	1,015.2	10.2	38.2	27/20	132	NW	NW	22	0.0	5.0	2.4
July	1,014.0	10.7	36.9	22/53	129	NNW	NNW	26	0.0	4.8	2.0
August	1,012.8	10.9	41.0	19/26	140	NNW	NW	44	0.1	4.8	2.1
September	1,011.4	12.5	43.0	28/65	150	NNW	NW	73	0.1	4.9	1.5
October	1,010.3	12.6	32.4	3/65	140	NNW	SW	107	0.4	5.2	1.0
November	1,009.8	12.8	34.1	18/15	135	NNW	S	123	0.6	5.3	1.3
December	1,009.4	12.4	37.7	1/34	122	NNW	SSE	150	0.8	5.3	1.1
Year Totals	..	..	..	..	..	..	..	**1,064**	**5.1**	..	**22.1**
Year Averages	**1,012.6**	**11.5**	..	..	..	**NNW**	**W**	..	..	**5.0**	..
Year Extremes	..	..	**43.0**	.. **28/9/65**	**150**	..	..	..	..	..	..

(*a*) Scale 0–8. (*b*) Standard thirty years normal (1911-1940). (*c*) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (° Celsius)			Extreme air temperature (° Celsius)				Extreme temperature (° Celsius)				Mean daily hours sunshine
	Mean max.	Mean min.	Mean	Highest		Lowest		Highest in sun		Lowest on grass		
No. of years of record	92	92	92		95		95		57(*a*)		91	79
January	21.4	11.5	16.5	40.8	4/76	4.5	(*b*)	71.1	(*c*)	-0.8	19/97*	7.9
February	21.5	11.8	16.7	40.2	12/99*	3.9	20/87*	73.9	24/68*	-2.0	–/87*	7.0
March	20.0	10.6	15.3	37.3	13/40	1.8	31/26	66.1	26/44	-2.5	30/02	6.4
April	17.1	8.7	12.9	30.6	1/41	0.6	14/63	61.1	18/93*	-3.9	–/86*	5.0
May	14.2	6.7	10.5	25.5	5/21	-1.6	30/02	53.3	(*d*)	-6.7	19/02	4.3
June	11.8	5.1	8.5	20.6	1/07	-2.8	25/72	50.0	12/94*	-7.7	24/63	3.9
July	11.4	4.4	7.9	21.0	30/75	-2.4	(*f*)	49.4	12/93*	-7.5	1/78	4.3
August	12.8	5.0	8.9	24.5	26/77	-1.8	5/62	54.4	–/87*	-6.6	7/09	5.0
September	14.9	6.2	10.6	28.2	29/73	-0.6	16/97*	58.9	23/93*	-7.6	16/26	5.9
October	16.7	7.5	12.1	33.4	24/14	0.0	12/89*	68.9	9/93*	-4.6	(*e*)	6.3
November	18.5	9.0	13.8	36.8	26/37	1.6	16/41	55.6	19/92*	-3.4	1/08	7.0
December	20.2	10.5	15.4	40.7	30/97*	3.3	3/06	71.9	10/39	-2.6	–/86*	7.2
Year Averages	**16.7**	**8.1**	**12.4**	..	..	..	..	..	..	..	..	**5.9**
Year Extremes	..	..	..	**40.8**	.. **4/1/1976**	**-2.8**	.. **25/6/72**	**73.9**	.. **24/2/1868**	**-7.7**	.. **24/6/1963**	..

(*a*) Period 1934–1938 not comparable; records discontinued 1946. (*b*) 09/1937 and 11/1937. (*c*) 05/1886 and 13/1905. (*d*)--/1899 and –/1893. (*e*) 1/1886 and 1/1899. (*f*) 11/1895 and 7/1973.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)								Fog mean No. days
		Mean	Highest mean	Lowest mean	Mean mthly	Mean No. of days of rain	Greatest monthly		Least monthly		Greatest in one day		
No. of years of record	77(*a*)	81	85	85	93	93		96		96		132(*f*)	64
January	11.0	58	81	45	49	11	150	1893	4	1958	75	30/16	0.3
February	11.7	62	83	49	42	10	171	1964	3	1914	56	1/54	0.1
March	11.0	65	78	52	47	11	255	1946	7	1943	88	17/46	0.3
April	10.0	70	84	57	55	12	248	1960	2	1904	133	23/60	0.3
May	8.8	75	86	61	49	14	214	1958	4	1913	47	3/73	1.1
June	7.9	78	91	61	59	14	238	1954	7	(*c*)	147	7/54	1.7
July	7.6	78	87	72	54	15	157	1974	4	1950	64	18/22	1.4
August	7.9	73	86	59	49	16	161	1946	8	1892	65	2/76	0.7
September	8.3	66	81	52	52	15	201	1957	10	1951	156	15/57	0.2
October	9.1	62	74	52	64	17	193	1947	10	1914	66	4/06	0.1
November	9.6	59	73	49	56	14	188	1885	9	(*d*)	94	30/85*	0.1
December	10.6	58	73	42	57	13	196	(*b*)	5	(*e*)	85	5/41	0.1
Year Totals	..	..	..	..	**633**	**162**	..	..	..	..	..	..	**6.1**
Year Averages	**9.5**	**67**	..	..	..	..	..	..	..	..	..	..	..
Year Extremes	..	..	**91**	**42**	..	..	**255**	.. **3/1946**	**2**	.. **4/1904**	**156**	.. **15/9/57**	..

(*a*) 1894–1970. (*b*) 1897 and 1916. (*c*) 1886 and 1967. (*d*) 1919 and 1921. (*e*) 1897, 1915 and 1931. (*f*) Includes earlier records at Botanical Gardens.

Figures such as 30/16, 12/99, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked w asterisk (*) relate to nineteenth century.

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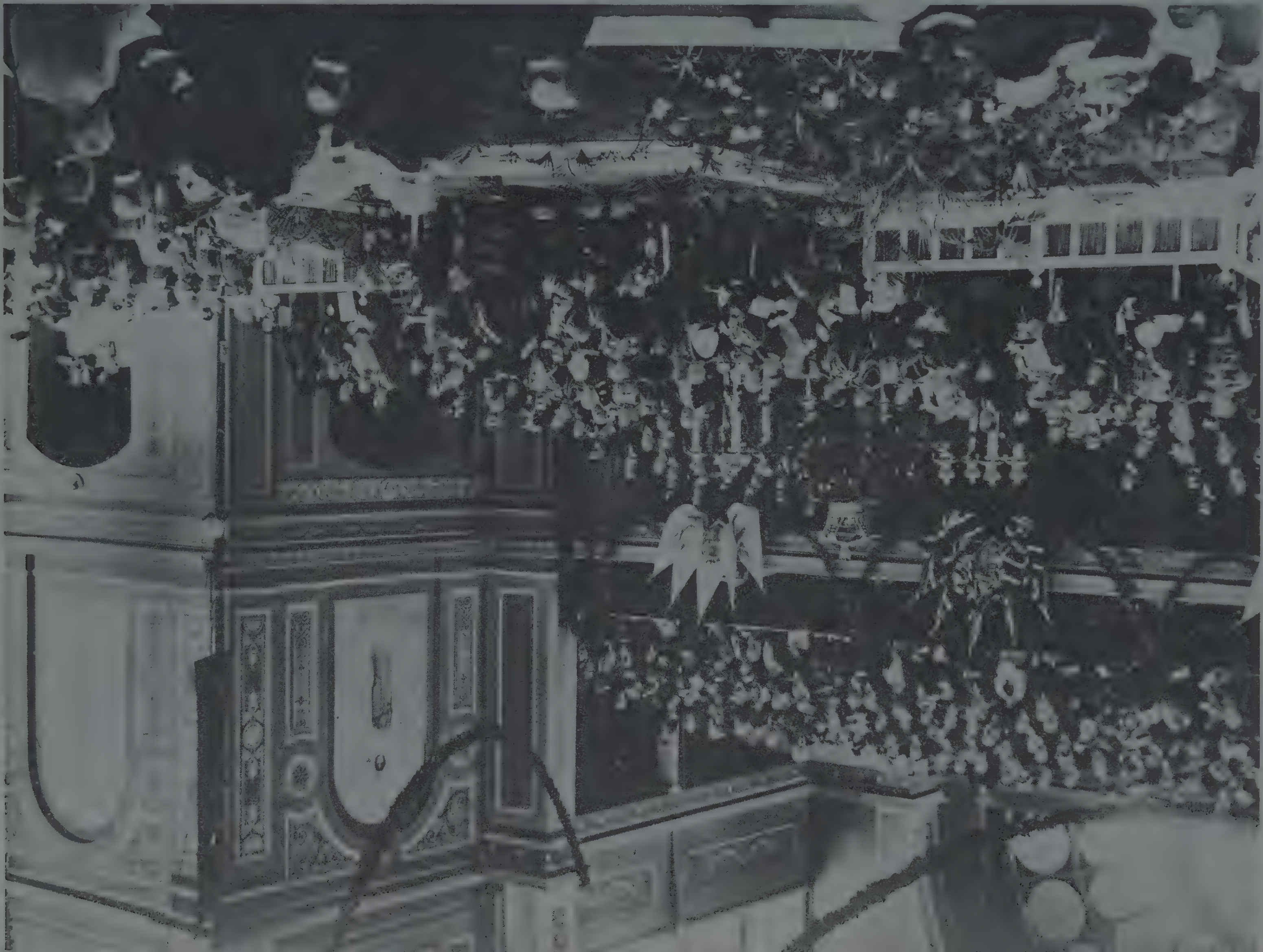
CHAPTER 3

GENERAL GOVERNMENT



CHAPTER 3

GENERAL GOVERNMENT

Parliamentary government

Scheme of parliamentary government

Under section 1 of the Australian Constitution the legislative power of the Commonwealth of Australia is vested in the Parliament of the Commonwealth, which consists of the Sovereign, the Senate, and the House of Representatives. The Sovereign is represented throughout the Commonwealth by the Governor-General who, subject to the Constitution, has such powers and functions as the Sovereign is pleased to assign to him. In each Australian State there is a State Governor, who is the representative of the Sovereign for the State. The Governor has such powers within the State as are conferred upon him by the Letters Patent constituting his office, and he exercises these powers in accordance with instructions issued to him by the Sovereign, detailing the manner in which his duties are to be fulfilled.

In the Commonwealth Parliament the Upper House is known as the Senate, and in the bicameral State Parliaments as the Legislative Council. The Legislature in each State was bicameral until 1922 when the Queensland Parliament became unicameral upon the abolition of the Upper House. In the Commonwealth Parliament the Lower House is known as the House of Representatives, in the State Parliaments of New South Wales, Victoria, Queensland and Western Australia as the Legislative Assembly, and in the State Parliaments of South Australia and Tasmania as the House of Assembly. The extent of the legislative powers of each of the seven Parliaments is defined by the Australian and State Constitutions respectively. In those States that have a bicameral legislature the Legislative Assembly or House of Assembly is the larger House.

The members of the Legislative Assembly or House of Assembly, as the case may be, of each State are elected by the people, the franchise extending to British subjects who are at least 18 years of age and possess certain residential qualifications. With the exception of the New South Wales Legislative Council, the members of State Legislative Councils are, in common with members of the Lower Houses, elected by the people of the respective States. Up until 1978 in New South Wales a quarter of the members of the Legislative Council retired each three years, and the continuing members of the Council and the members of the Legislative Assembly, voting as an electoral body, elected members to fill the vacant positions. However, as from 1978 in New South Wales, as well as in all other States possessing a Legislative Council, members of the Council are now elected by adult suffrage. In the Commonwealth Parliament the qualifications for the franchise are identical for both Houses, extending to British subjects who have lived in Australia for six months continuously and who are not less than 18 years of age.

The Sovereign

On 7 February 1952, the then Governor-General of the Commonwealth of Australia and members of the Federal Executive Council proclaimed Princess Elizabeth Queen Elizabeth the Second, Queen of this Realm and of all Her other Realms and Territories, Head of the Commonwealth, Defender of the Faith, Supreme Liege Lady in and over the Commonwealth of Australia. The coronation of Her Majesty in Westminster Abbey took place on 2 June 1953. By the *Royal Style and Titles Act* 1973, which Her Majesty assented to in Canberra on 19 October 1973, the Parliament of the Commonwealth assented to the adoption by Her Majesty, for use in relation to Australia and its Territories, of the Style and Titles set forth in the Schedule to the Act. On the same day, also in Canberra, Her Majesty issued a Proclamation, under the Great Seal of Australia, appointing and declaring that Her Majesty's Style and Titles should henceforth be, in relation to Australia and its Territories, 'Elizabeth the Second, by the Grace of God Queen of Australia and Her other Realms and Territories, Head of the Commonwealth'.

The Governor-General

Powers and functions. As the Queen's representative in Australia, the Governor-General of the Commonwealth of Australia exercises certain prerogative powers and functions assigned to him by the Queen. Other powers and functions are conferred on him by the Australian Constitution. Powers which have been so assigned or conferred include, among others, the power to grant pardons and to remit fines for offences against the laws of the Commonwealth of Australia; to appoint certain officers in the Diplomatic or Consular Service; to appoint times for holding the sessions of the Parliament, prorogue Parliament, and dissolve the House of Representatives; to cause writs to be issued for general elections of members of the House of Representatives; to assent in the Queen's name to a proposed law passed by both Houses of the Parliament or to withhold such assent, or to reserve the law for the Queen's pleasure, or to return the proposed law to the House in which it originated and transmit therewith any amendments which he may recommend; to exercise executive power; to choose and summon Executive Councillors, who hold office during his pleasure; and to appoint Ministers of State for the Commonwealth of Australia. In addition, the command-in-chief of the defence forces of the Commonwealth of Australia is vested in the Governor-General as the Queen's representative.

Many Acts of the Commonwealth Parliament provide that the Governor-General may make regulations to give effect to the Act. The Governor-General may also be authorised by statute to issue proclamations—for example, to declare an Act in force. He has been given power by statute to legislate for certain of the Australian Territories. Under the conventions of responsible government obtaining in British Commonwealth countries, the Governor-General's functions are exercised generally on the advice of Ministers of State.

The present Governor-General is His Excellency Sir Zelman Cowen, A.K., G.C.M.G., K.St.J., Q.C., who has held office since 8 December 1977.

Holders of office. The names of those persons who have acted as Governor-General since the inception of the Commonwealth of Australia are listed in Year Book No. 61 and earlier Year Books.

Administrators. In addition to the holders of the office of Governor-General listed above, certain persons have, from time to time, been appointed as Administrator of the Commonwealth of Australia. Administrators are appointed in the event of the death, illness, or absence from Australia of the Governor-General, or for the period between the departure of a Governor-General and the arrival of his successor. The names of those persons who have acted as Administrator are also listed in Year Book No. 61 and earlier Year Books.

Governors of the States

Powers and functions. The Queen is represented in each of the Australian States by a Governor, the office having been constituted by Letters Patent issued under the Great Seal of the United Kingdom on various dates. The Governors of the States exercise prerogative powers conferred on them by these Letters Patent, their Commissions of appointment, and the Governor's Instructions given them under the Royal Sign Manual and Signet or other instrument as specified in the Letters Patent. In addition, they have been invested with various statutory functions by State Constitutions and other Imperial Acts, as well as under the Acts of the Parliaments of the States.

A Governor of a State assents in the Queen's name to Bills passed by the Parliament of the State, except those reserved for the Royal Assent. The latter include certain classes of Bills which are regulated by the State's Constitution and by the Governor's Instructions. He administers the prerogative of mercy by the reprieve or pardon of criminal offenders within his jurisdiction, and may remit fines and penalties due to the Crown. In the performance of his functions generally, particularly those conferred by statute, the Governor of a State acts on the advice of Ministers of State for the State.

Holders of office. The names of the present (October 1979) State Governors are as follows:

New South Wales—SIR ARTHUR RODEN CUTLER, V.C., K.C.M.G., K.C.V.O., C.B.E., K.ST.J.
Victoria—SIR HENRY ARTHUR WINNEKE, K.C.M.G., K.C.V.O., O.B.E., K.ST.J., Q.C.
Queensland—COMMODORE SIR JAMES MAXWELL RAMSAY, K.C.M.G., C.B.E., D.S.C., K.ST.J.
South Australia—MR KEITH DOUGLAS SEAMAN, O.B.E., K.ST.J.
Western Australia—AIR CHIEF MARSHAL SIR WALLACE HART KYLE, G.C.B., K.C.V.O., C.B.E., D.S.O., D.F.C., K.ST.J.
Tasmania—SIR STANLEY CHARLES BURBURY, K.C.V.O., K.B.E., K.ST.J.

The Cabinet and executive government

Detailed information is contained in Year Book No. 62, pages 64 and 65.

Commonwealth Government Ministries

Names and tenure of office, 1901 to 1979. The following list shows the name of each Commonwealth Government Ministry to hold office since 1 January 1901 and the limits of its term of office.

COMMONWEALTH GOVERNMENT MINISTRIES, 1901 TO OCTOBER 1979

(i) BARTON MINISTRY, 1 January 1901 to 24 September 1903.
(ii) DEAKIN MINISTRY, 24 September 1903 to 27 April 1904.
(iii) WATSON MINISTRY, 27 April 1904 to 17 August 1904.
(iv) REID-MCLEAN MINISTRY, 18 August 1904 to 5 July 1905.
(v) DEAKIN MINISTRY, 5 July 1905 to 13 November 1908.
(vi) FISHER MINISTRY, 13 November 1908 to 1 June 1909.
(vii) DEAKIN MINISTRY, 2 June 1909 to 29 April 1910.
(viii) FISHER MINISTRY, 29 April 1910 to 24 June 1913.
(ix) COOK MINISTRY, 24 June 1913 to 17 September 1914.
(x) FISHER MINISTRY, 17 September 1914 to 27 October 1915.
(xi) HUGHES MINISTRY, 27 October 1915 to 14 November 1916.
(xii) HUGHES MINISTRY, 14 November 1916 to 17 February 1917.
(xiii) HUGHES MINISTRY, 17 February 1917 to 10 January 1918.
(xiv) HUGHES MINISTRY, 10 January 1918 to 9 February 1923.
(xv) BRUCE-PAGE MINISTRY, 9 February 1923 to 22 October 1929.
(xvi) SCULLIN MINISTRY, 22 October 1929 to 6 January 1932.
(xvii) LYONS MINISTRY, 6 January 1932 to 7 November 1938.
(xviii) LYONS MINISTRY, 7 November 1938 to 7 April 1939.
(xix) PAGE MINISTRY, 7 April 1939 to 26 April 1939.
(xx) MENZIES MINISTRY, 26 April 1939 to 14 March 1940.
(xxi) MENZIES MINISTRY, 14 March 1940 to 28 October 1940.
(xxii) MENZIES MINISTRY, 28 October 1940 to 29 August 1941.
(xxiii) FADDEN MINISTRY, 29 August 1941 to 7 October 1941.
(xxiv) CURTIN MINISTRY, 7 October 1941 to 21 September 1943.
(xxv) CURTIN MINISTRY, 21 September 1943 to 6 July 1945.
(xxvi) FORDE MINISTRY, 6 July 1945 to 13 July 1945.
(xxvii) CHIFLEY MINISTRY, 13 July 1945 to 1 November 1946.
(xxviii) CHIFLEY MINISTRY, 1 November 1946 to 19 December 1949.
(xxix) MENZIES MINISTRY, 19 December 1949 to 11 May 1951.
(xxx) MENZIES MINISTRY, 11 May 1951 to 11 January 1956.
(xxxi) MENZIES MINISTRY, 11 January 1956 to 10 December 1958.
(xxxii) MENZIES MINISTRY, 10 December 1958 to 18 December 1963.
(xxxiii) MENZIES MINISTRY, 18 December 1963 to 26 January 1966.
(xxxiv) HOLT MINISTRY, 26 January 1966 to 14 December 1966.
(xxxv) HOLT MINISTRY, 14 December 1966 to 19 December 1967.
(xxxvi) MCEWEN MINISTRY, 19 December 1967 to 10 January 1968.
(xxxvii) GORTON MINISTRY, 10 January 1968 to 28 February 1968.
(xxxviii) GORTON MINISTRY, 28 February 1968 to 12 November 1969.
(xxxix) GORTON MINISTRY, 12 November 1969 to 10 March 1971.
(xl) MCMAHON MINISTRY, 10 March 1971 to 5 December 1972.
(xli) WHITLAM MINISTRY, 5 December 1972 to 19 December 1972.
(xlii) WHITLAM, MINISTRY, 19 December 1972 to 11 November 1975.
(xliii) FRASER MINISTRY, 11 November 1975 to 22 December 1975.
(xliv) FRASER MINISTRY, 22 December 1975 to 20 December 1977.
(xlv) FRASER MINISTRY, 20 December 1977

Names of Members of each Ministry to 31 October 1979. In Year Book No. 17, 1924, the names are given of each Ministry up to the Bruce-Page Ministry (9 February 1923 to 22 October 1929), together with the names of the successive holders of portfolios therein. Issue No. 39 contains a list which covers the period between 9 February 1923, the date on which the Bruce-Page Ministry assumed power, and 31 July 1951, showing the names of all persons who held office in each Ministry during that period. The names of members of subsequent Ministries are listed in successive issues of the Year Book from No. 39 to No. 61 inclusive.

This issue only shows particulars of the Third Fraser Ministry (at 31 October 1979).

COMMONWEALTH AND STATE LEADERS OF THE GOVERNMENT, OCTOBER 1979†

Commonwealth—The Hon. J. M. Fraser, C.H., M.P. (Vic.) (L.P.)
New South Wales—The Hon. N. K. Wran, Q.C., M.P. (A.L.P.)
Victoria—The Hon. R. J. Hamer, E.D., M.P. (L.P.)
Queensland—The Hon. J. Bjelke-Petersen, M.L.A. (N.P.)
South Australia—The Hon. D. O. Tonkin, M.H.A. (L.P.)
Western Australia—The Hon. Sir Charles Court, K.C.M.G. O.B.E., M.L.A. (L.P.)
Tasmania—The Hon. D. A. Lowe, M.H.A. (A.L.P.)

THE THIRD FRASER MINISTRY—AT 31 OCTOBER 1979

(The State in which each Minister's electorate is situated and party affiliation are shown in parenthesis. Party affiliation is indicated by the use of the following abbreviations; L.P. Liberal Party of Australia; N.C.P. National Country Party of Australia).

**Prime Minister*—

The Right Hon. J. M. Fraser, M.P. (Vic.) (L.P.)

**Deputy Prime Minister, Minister for Trade and Resources*—

The Rt Hon. J. D. Anthony, M.P. (N.S.W.) (N.C.P.)

**Minister for Industry and Commerce*—

The Rt Hon. P. R. Lynch, M.P. (Vic.) (L.P.)

**Minister for Education, Vice-President of the Executive Council and Leader of the Government in the Senate*—

Senator The Hon. J. L. Carrick (N.S.W.) (L.P.)

**Minister for Industrial Relations*—

The Hon. A. A. Street, M.P. (Vic.) (L.P.)

**Minister for Transport, and Minister for Primary Industry*—

The Hon. P. J. Nixon, M.P. (Vic.) (N.C.P.)

**Treasurer*—

The Hon. J. W. Howard, M.P. (N.S.W.) (L.P.)

**Minister for Foreign Affairs*—

The Hon. A. S. Peacock, M.P. (Vic.) (L.P.)

**Minister for Defence*—

The Hon. D. J. Killen, M.P. (Qld) (L.P.)

**Minister for Social Security*—

Senator The Hon. Margaret G. C. Guilfoyle (Vic.) (L.P.)

**Minister for Finance*—

The Hon. E. L. Robinson, M.P. (Qld) (L.P.)

**Minister for Employment and Youth Affairs, Minister Assisting the Prime Minister and Leader of the House*—

The Hon. R. I. Viner, M.P. (W.A.) (L.P.)

**Attorney-General*

Senator The Hon. P. D. Durack (W.A.) (L.P.)

Minister for Health—

The Hon. R. J. D. Hunt, M.P. (N.S.W.) (N.C.P.)

Minister for Immigration and Ethnic Affairs and Minister assisting the Treasurer—

The Hon. M. J. R. MacKellar, M.P. (N.S.W.) (L.P.)

Minister for Veterans' Affairs and Minister Assisting the Minister for Primary Industry—

The Hon. Evan Adermann, M.P. (Qld) (L.P.)

Minister for Administrative Services and Minister Assisting the Minister for Defence—

The Hon. John McLeay, M.P. (S.A.) (L.P.)

Minister for National Development—

The Hon. Kevin Newman, M.P. (Tas.) (L.P.)

Minister for Science and the Environment—

Senator The Hon. J. J. Webster (Vic.) (N.C.P.)

Minister for Post and Telecommunications—

The Hon. A. A. Staley, M.P. (Vic.) (L.P.)

Minister for Productivity and Minister Assisting the Minister for Industry and Commerce—

The Hon. Ian Macphee, M.P. (Vic.) (L.P.)

Minister for Business and Consumer Affairs and Minister Assisting the Prime Minister in Federal Affairs—

The Hon. Wal Fife, M.P. (N.S.W.) (L.P.)

Minister for Special Trade Representations and Minister Assisting the Minister for Trade and Resources—

The Hon. R. V. Garland, M.P. (W.A.) (L.P.)

Minister for Home Affairs and Minister for the Capital Territory—

The Hon. R. J. Ellicott, Q.C., M.P. (N.S.W.) (L.P.)

Minister for Housing and Construction—

The Hon. Ray Groom, M.P. (Tas.) (L.P.)

Minister for Aboriginal Affairs and Minister Assisting the Minister for Education—

Senator the Hon. F. M. Chaney (W.A.) (L.P.)

*Minister in the Cabinet.

COMMONWEALTH AND STATE LEADERS OF THE OPPOSITION, OCTOBER 1979†

The Leader of the Opposition plays an important part in the Party system of government which operates in the Australian Parliaments. The following list gives the names of the holders of this position in each of the Parliaments in October 1979.

Commonwealth—The Hon. W. G. Hayden, M.P. (A.L.P.)
New South Wales—J. M. Mason, M.P. (L.P.)
Victoria—F. N. Wilkes, M.P. (A.L.P.)
Queensland—E. D. Casey, M.L.A. (A.L.P.)
South Australia—J. C. Bannon, M.H.A. (A.L.P.)
Western Australia—The Hon. R. Davies, M.L.A. (A.L.P.)
Tasmania—G. A. Pearsall, M.H.A. (L.P.)

Numbers and salaries of Commonwealth Government Ministers

Under sections 65 and 66, respectively, of the Constitution of the Commonwealth of Australia the number of Ministers of State was not to exceed seven, and the annual sum payable for their salaries was not to exceed £12,000 ($24,000), each provision to operate, however, 'until the Parliament otherwise provides'.

Subsequently the number and salaries have been increased from time to time, and at October 1979 the number of Ministers is twenty-six and ministerial salaries range from $11,269 for a Minister not in Cabinet to $30,320 for the Prime Minister. An additional ministerial allowance of $14,167 a year is payable to the Prime Minister, $7,084 a year to the Deputy Prime Minister, the Treasurer, the Leader of the House and the Leader of the Government in the Senate, and $5,903 a year to other Ministers.

All amounts payable in the foregoing paragraphs are in addition to amounts payable as Parliamentary allowances (*see* page 60).

Parliaments and elections

The Commonwealth Parliaments

The first Parliament of the Commonwealth of Australia was convened by proclamation dated 29 April 1901 by His Excellency the Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on 9 May 1901 by H.R.H. the Duke of Cornwall and York. The Rt Hon. Sir Edmund Barton, G.C.M.G., K.C., was Prime Minister.

The following table shows the number and duration of Parliaments since federation.

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† Party affiliation is indicated by the use of the following abbreviations: A.L.P.—Australian Labor Party; N.P.—National Party; L.P.—Liberal Party of Australia; N.C.P.—National Country Party of Australia.

COMMONWEALTH PARLIAMENTS

Number of Parliament	*Date of opening*	*Date of dissolution*
First	9 May 1901	23 November 1903
Second	2 March 1904	5 November 1906
Third	20 February 1907	19 February 1910
Fourth	1 July 1910	23 April 1913
Fifth	9 July 1913	30 July 1914 (*a*)
Sixth	8 October 1914	26 March 1917
Seventh	14 June 1917	3 November 1919
Eighth	26 February 1920	6 November 1922
Ninth	28 February 1923	3 October 1925
Tenth	13 January 1926	9 October 1928
Eleventh	6 February 1929	16 September 1929
Twelfth	20 November 1929	27 November 1931
Thirteenth	17 February 1932	7 August 1934
Fourteenth	23 October 1934	21 September 1937
Fifteenth	30 November 1937	27 August 1940
Sixteenth	20 November 1940	7 July 1943
Seventeenth	23 September 1943	16 August 1946
Eighteenth	6 November 1946	31 October 1949
Nineteenth	22 February 1950	19 March 1951 (*a*)
Twentieth	12 June 1951	21 April 1954
Twenty-first	4 August 1954	4 November 1955
Twenty-second	15 February 1956	14 October 1958
Twenty-third	17 February 1959	2 November 1961
Twenty-fourth	20 February 1962	1 November 1963
Twenty-fifth	25 February 1964	31 October 1966
Twenty-sixth	21 February 1967	29 September 1969
Twenty-seventh	25 November 1969	2 November 1972
Twenty-eighth	27 February 1973	11 April 1974 (*a*)
Twenty-ninth	9 July 1974	11 November 1975 (*a*)
Thirtieth	17 February 1976	8 November 1977
Thirty-first	21 February 1978	

(*a*) A dissolution of both the Senate and the House of Representatives was granted by the Governor-General under section 57 of the Constitution.

The thirtieth Parliament opened on 17 February 1976 and ended on 8 November 1977 when the House of Representatives was dissolved. Elections for the House of Representatives, Senators for the Australian Capital Territory and the Northern Territory, and Senators whose term expired on 30 June 1978 were held on 10 December 1977. Writs were issued by the Governor-General on 10 November 1977 for the House of Representatives elections in all States and Territories, and for the Senate elections in the Australian Capital Territory and Northern Territory. Writs for the Senate elections in the respective States were issued on the same date by the State Governors. For voting figures *see* page 58. For particulars of electors enrolled and of electors who voted in the several States and Territories at previous Commonwealth elections *see* Year Book No. 61 and earlier issues.

Qualifications for membership and for franchise—Commonwealth Parliament

Qualifications necessary for membership of either House of the Commonwealth Parliament are possessed by any British subject, eighteen years of age or over and not disentitled on other grounds, who has resided in Australia for at least three years and who is, or is qualified to become, an elector of the Commonwealth Parliament. Qualifications for Commonwealth Parliament franchise are possessed by any British subject, not under eighteen years of age and not disentitled on other grounds, who has lived in Australia for six months continuously. Residence in a Subdivision for a period of one month prior to enrolment is necessary to enable a qualified person to enrol. Enrolment and voting are compulsory except that the compulsory enrolment provisions do not relate to an Aboriginal native of Australia. A member of the Defence Force on service outside Australia who is not less than eighteen years of age, is a British subject and has lived in Australia for six months continuously is entitled to vote at Commonwealth Parliament elections even though he may not be enrolled.

The principal reasons for disqualification of persons otherwise eligible for election as members of either Commonwealth House are: membership of the other House, allegiance to a foreign power, being attainted of treason, being convicted and under sentence for any offence punishable by imprisonment for one year or longer, being an undischarged bankrupt or insolvent, holding an office of profit under the Crown (with certain exceptions), or having pecuniary interest in any agreement with the public service of the Commonwealth Government except as a member of an incorporated company of more than twenty-five persons. Persons of unsound mind, attainted of treason, convicted and under sentence for any offence punishable by imprisonment for one year or longer, or persons who are holders of temporary entry permits under the *Migration Act* 1958 or are prohibited immigrants under that Act are excluded from the franchise. In the main, these or similar grounds for disqualification apply also to State Parliament membership and franchise. Aborigines are entitled to enrol and to vote at both Commonwealth and State elections in all States.

Commonwealth Parliaments and elections

From the establishment of the Commonwealth of Australia until 1949 the Senate consisted of thirty-six members, six being returned by each of the original federating States. The Constitution empowers Parliament to increase or decrease the size of the Parliament, and, as the population of Australia had more than doubled since its inception, the Parliament passed the *Representation Act* 1948 which provided that there should be ten Senators from each State instead of six, thus increasing the total to sixty Senators, enlarging both Houses of Parliament and providing a representation ratio nearer to the proportion which existed at Federation.

The *Senate* (*Representation of Territories*) *Act* 1973 made provision for two Senators to be elected from both the Northern Territory and the Australian Capital Territory. Elections for the Territory Senators are held at the same time as general elections for the House of Representatives.

In accordance with the Constitution, the total number of State Members of the House of Representatives must be as nearly as practicable twice the number of State Senators. Consequent upon the increase in the size of the Senate in 1949, the number of State Members was increased from 74 to 121. In 1955 there were 122 State Members; in 1969, 123; in 1974, 124; in 1977, 121.

Redistribution of the States into electoral divisions have taken place in 1949, 1955, 1968, 1974 (Western Australia only), 1977 and 1979 (Western Australia only). The quota (or average number) of electors is the basis for electoral distribution, but the Distribution Commissioners may vary the enrolment of electorates by up to 10 per cent from the quota in order to take account of communities of interest, including economic, social and regional interests, means of communication and travel, the trend of population changes, physical features, and existing boundaries of electoral divisions and subdivisions. In addition, no electorate with an area of 5000 square kilometres or more may contain a greater number of electors than any electorate less than 5000 square kilometres in area.

The Chief Australian Electoral Officer determines the representation entitlements of the States during the twelfth month of the life of each Parliament. Determinations are based on the latest population statistics as provided by the Australian Statistician. Should the representation entitlement of a State change, the preparation of a redistribution is mandatory. The representation entitlements of the States at the three most recent determinations are shown in the following table:

REPRESENTATION ENTITLEMENTS OF THE STATES

State	*1972*	*1977*	*1979*
New South Wales	45	43	43
Victoria	34	33	33
Queensland	18	19	19
South Australia	12	11	11
Western Australia	10	10	11
Tasmania	5	5	5
Total	**124**	**121**	**122**

Following the 1977 Determination, Distribution Commissioners were appointed for all States in April and the proposed redistributions were approved by Parliament in October. The proposed redistributions came into effect by force of the *Commonwealth Electoral (Redistribution) Act* 1977. The election of 10 December 1977 was conducted on the basis of the new boundaries. Following the 1979 Determination, Distribution Commissioners were appointed for Western Australia in April and the proposed redistribution was approved by Parliament in November 1979.

From 1922 to 1968 the Northern Territory was represented in a limited capacity by one member in the House of Representatives. In May 1968 the Northern Territory Representation Act was amended to give full voting rights to the Member for the Northern Territory effective from 15 May 1968, the day on which the Act received Royal Assent.

From 1948–1967 the Australian Capital Territory was represented in a limited capacity by one member in the House of Representatives. The Member for the Australian Capital Territory has had full voting rights since 21 February 1967.

Following the passing of the Australian Capital Territory (House of Representatives) Act in October 1973 a Distribution Committee was appointed to distribute the Australian Capital Territory into two electoral Divisions. On 19 March 1974, the Committee published an initial redistribution proposal. By early 1974 there was an indication that the House of Representatives would be dissolved before the Distribution Committee could complete its task. Accordingly the *Australian Capital Territory Representation (House of Representatives) Act* 1974 was enacted to provide that the Territory be divided into two electoral divisions, adopting the boundaries recommended by the Distribution Committee. The 1974 and subsequent House of Representatives elections were held on those boundaries.

Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. At elections for Senators the whole State constitutes the electorate. For the purpose of elections for the House of Representatives the State is divided into single electorates corresponding in number to the number of members to which the State is entitled. Further information regarding the Senate and the House of Representatives is given in earlier issues of the Year Book.

The *Commonwealth Electoral Act* 1948, enacted with the *Representation Act* 1948 which enlarged the Commonwealth Parliament (*see* page 57), changed the system of scrutiny and counting of votes in Senate elections from the alternative vote to that of proportional representation. The method of voting for both the Senate and the House of Representatives is preferential.

Particulars of voting at Senate elections and elections for the House of Representatives up to 1975 appear in earlier issues of the Year Book. Additional information is available in the *Statistical Returns* issued by the Chief Electoral Officer following each election and printed as Parliamentary Papers.

The numbers of electors and primary votes cast for the major political parties in each State and Territory at the latest election for each House of the Commonwealth Parliament were as follows:

COMMONWEALTH PARLIAMENT ELECTIONS, 10 DECEMBER 1977

	N.S.W.	*Vic.*	*Qld.*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
HOUSE OF REPRESENTATIVES ELECTION									
Electors enrolled	3,051,238	2,289,926	1,258,724	824,205	690,919	262,114	44,295	127,358	8,548,779
Number of votes recorded for—									
Australian Labor Party	1,201,560	791,083	443,221	322,883	205,793	103,877	14,811	57,823	3,141,051
Liberal Party	1,018,257	842,545	326,135	340,383	307,699	134,687	..	48,190	3,017,896
National Country Party(*a*)	320,051	120,032	305,275	6,065	25,559	..	16,462	..	793,444
Australian Democrats	239,808	250,943	77,169	85,578	70,590	8,255	2,478	8,544	743,365
Democratic Labor Party	..	113,271	..	..	..	..	..	..	113,271
Progress Party	17,512	..	16,389	..	17,879	..	987	..	52,767
Others	36,597	9,652	7,474	2,299	4,504	..	..	534	61,060
Informal votes	65,660	62,381	18,212	26,461	21,560	6,579	1,244	2,811	204,908
Total votes recorded	*2,899,445*	*2,189,907*	*1,193,875*	*783,669*	*653,584*	*253,398*	*35,982*	*117,902*	*8,127,762*
SENATE ELECTION									
Electors enrolled	3,051,238	2,289,926	1,258,724	824,205	690,919	262,114	44,295	127,358	8,548,779
Number of votes recorded for—									
Australian Labor Party	1,050,672	680,673	380,418	258,643	196,781	88,722	13,593	49,374	2,718,876
Liberal Party: National Country Party(*a*)(*b*)	1,136,215	833,477	564,190	..	..	..	..	..	2,533,882
Liberal Party(*b*)	..	..	..	344,351	278,413	117,217	..	43,897	783,878
National Country Party(*a*)(*b*)	..	..	..	..	36,619	..	15,463	..	52,082
Australian Democrats	218,364	322,493	98,165	78,496	74,912	13,793	2,766	14,561	823,550
Democratic Labor Party	..	123,192	..	..	..	..	..	..	123,192
Progress Party	64,557	..	8,376	..	10,412	..	1,825	..	85,170
Others	151,441	30,601	47,723	20,728	3,021	15,695	..	6,368	275,577
Informal votes	278,196	199,471	95,003	81,451	53,426	17,971	2,335	3,702	731,555
Total votes recorded	*2,899,445*	*2,189,907*	*1,193,875*	*783,669*	*653,584*	*253,398*	*35,982*	*117,902*	*8,127,762*

(*a*) The National Country Party is known in the various States as follows: New South Wales—Australian Country Party; Victoria, Queensland and Tasmania—National Party; South Australia and Western Australia—National Country Party. In the Northern Territory it is known as the Country Liberal Party. (*b*) In New South Wales, Victoria and Queensland the Liberal Party and the National Country Party candidates stood as one group; in South Australia, Tasmania and the Australian Capital Territory only the Liberal Party stood as a group; in Western Australia the National Country Party and the Liberal Party each stood as separate groups; in the Northern Territory there was a Country Liberal Party group only.

The State of the parties in each House at the commencement of the thirty-first Parliament was: *Senate*—Liberal Party 27, National Country Party 8, Australian Labor Party 27, Australian Democrats 1[1] and Independent 1; *House of Representatives*—Liberal Party 67, National Country Party 19 and Australian Labor Party 38.

Following the retirement of those Senators whose terms expired on 30 June 1978 the state of the parties in the Senate was: Liberal Party 29[2], National Country Party 6, Australian Labor Party 26[3], Australian Democrats 2 and Independent 1.

Referendums

In accordance with section 128 of the Constitution any proposed law for the alteration of the Constitution, in addition to being passed by an absolute majority of each House of Parliament must be submitted to a referendum of the electors in each State and Territory and must be approved by a majority of the electors in a majority of the States and by a majority of all the voters who voted before it can be presented for Royal Assent.

Since 1901 thirty-six proposals have been submitted to referendums and the consent of the electors has been received in eight cases: the first in relation to the election of Senators in 1906, the second and third in respect of State Debts—one in 1910 and the other in 1928, the fourth in respect of Social Services in 1946 and the fifth in respect of Aboriginals in 1967. The remaining three proposals in relation respectively to Senate casual vacancies, maximum retirement age for justices of the High Court and other Federal Courts and the right of electors in the Territories to vote in referendums for the alteration of the Constitution were approved in May 1977. In addition to referendums for alterations of the Constitution, other Commonwealth referendums have been held—two prior to Federation regarding the proposed Constitution and two regarding military service during the 1914–1918 War. For further details of referendums *see* Year Book No. 52, pages 66–8, Year Book No. 60, pages 90–91, and Year Book No. 62, pages 72–73.

The Parliaments of the States

This section contains summarised information; for greater detail refer to State Year Books.

Membership of State Parliaments. The following table shows the party distribution in each of the various State Parliaments at October 1979.

STATE PARLIAMENTS: MEMBERSHIP, BY PARTY AFFILIATION, OCTOBER 1979

Party	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*
UPPER HOUSE						
Australian Country Party (C.P.)	6	..	..	..	..	..
Australian Labor Party (A.L.P.)	23	13	..	10	9	3
Independent (Ind.)	..	..	..	..	1	16
Liberal Party of Australia (L.P.)	14	27	..	11	18	..
National Country Party (N.C.P.)(*a*)	..	..	..	..	3	..
National Party (N.P.)	..	..	..	..	1	..
National Party of Australia (Victoria) (N.P.A.)	..	4	..	..	..	..
Australian Democrats (A.D.)	..	..	..	1	..	..
Total	**43**	**44**	(*b*)	**22**	**32**	**19**
LOWER HOUSE						
Australian Country Party (C.P.)	17	..	..	..	..	..
Australian Labor Party (A.L.P.)	63	32	23	19	22	20
Independent (Ind.)	1	..	..	..	..	..
Independent Labor (Ind. Lab.)	..	..	..	1	..	..
Liberal Party of Australia (L.P.)	18	41	25	25	27	15
National Country Party (N.C.P.)(*a*)	..	..	..	1	3	..
National Party (N.P.)	..	..	35	..	3	..
National Party of Australia (Victoria) (N.P.A.)	..	8	..	..	..	..
Australian Democrats (A.D.)	..	..	..	1	..	..
Total	**99**	**81**	**82**	**47**	**55**	**35**

(*a*) Formerly the National Alliance Party. (*b*) Upper House abolished in 1922.

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[1] Following the resignation of Senator R. S. Hall from the Senate on 16 November 1977, the South Australian Parliament chose Senator J. Haines to fill the casual vacancy, pursuant to section 15 of the Constitution.

[2] Following the resignation of Senator the Hon. Sir Robert Cotton, K.C.M.G. from the Senate on 13 July 1978, Senator C. J. G. Puplick was appointed to fill the casual vacancy, pursuant to section 15 of the Constitution.

[3] Following the resignation of Senator the Hon. J. R. McClelland from the Senate on 21 July 1978 Senator K. W. Sibraa was appointed to fill the casual vacancy, pursuant to section 15 of the Constitution.

For corresponding particulars for the Commonwealth Parliament, *see* page 58.

Number and salaries and allowances of members of the legislatures, Australian parliaments, October 1979

AUSTRALIAN PARLIAMENTS: MEMBERS AND ANNUAL SALARIES AND ALLOWANCES, OCTOBER 1979

Members in—	*Cwlth.*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
NUMBER OF MEMBERS								
Upper House . . .	64	43	44	(*a*)	22	32	19	224
Lower House . . .	124	99	81	82	47	55	35	523
Total . . .	**188**	**142**	**125**	**82**	**69**	**87**	**54**	**747**
ANNUAL SALARY (*b*) ($)								
Upper House . . .	27,575	11,073	26,220	(*a*)	23,200	23,915	24,106	. .
Lower House . . .	27,575	23,214	26,220	27,680	23,200	23,915	24,106	. .
ELECTORAL ALLOWANCES ($)								
Upper House . . .	(*c*)9,000	(*d*)4,205	(*e*)5,225–7,035	(*a*)	6,075	(*e*)7,350–14,050	(*e*)2,652–6,268	. .
Lower House . . .	(*c*)9,000–13,000(*f*)	(*e*)7,780–12,154	(*e*)5,225–7,035	(*e*)6,870–17,740	(*e*)3,800–14,000	(*e*)6,600–13,300	(*e*)3,616–8,437	. .

(*a*) Abolished in 1922. (*b*) Basic rates (payable to backbenchers, etc.) only; additional rates apply for Ministers, etc. (*c*) Certain additional allowances are also provided for holders of parliamentary offices, etc. (*d*) Referred to as an expense allowance. An additional $48 per sitting day is payable to members who live outside the metropolitan area. (*e*) Allowance payable depends on location of electorate and, for Victoria and Tasmania, size of electorate. A special expense allowance for members in N.S.W., ranging from $2,921 to $3,649 is paid to members representing country electorates. (*f*) A member of the House of Representatives representing an electorate of less than 5,000 square kilometres receives an electorate allowance at the rate of $9,000 p.a.; a member representing an electorate of 5000 square kilometres or more receives an electorate allowance at the rate of $13,000 p.a.

Outlay on parliamentary government

The table below shows, in broad groups, the expenditure incurred in the operation of the parliamentary system in Australia, comprising the Governor-General and Governors, the Ministries, the Upper and Lower Houses of Parliament, and electoral activities; *it does not attempt to cover the expenditure on Commonwealth and State administration generally.* Only broad groups are shown, but even these are not entirely comparable because of differences in accounting procedures and in the presentation of accounts. Expenditure under the head of Governor-General or Governor includes salaries of Government House staffs and maintenance of residences, official establishments, grounds, etc., and expenditure on capital works and services.

OUTLAY ON PARLIAMENTARY GOVERNMENT, 1977-78
($'000)

Expenditure group	*Cwlth.*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
Governor-General or Governor (*a*) .	4,093	779	959	509	436	485	461	12,965
Ministry (*b*)		1,026	1,145	1,399	480	406	787	
Parliament—								
Upper House (*c*)	2,382	979	1,159	. .	528	1,276	496	6,819
Lower House (*c*)	4,670	3,048	2,286	2,425	1,114	2,349	768	16,660
Both Houses (*d*)	22,931	6,725	5,967	3,219	2,915	2,398	1,744	45,899
Miscellaneous (*e*)	13,362	721	961	700	439	580	126	16,889
Total, Parliament	*43,345*	*11,473*	*10,373*	*6,344*	*4,995*	*6,603*	*3,134*	*86,267*
Electoral (*f*)	21,723	2,081	417	1,549	1,055	509	232	27,565
Royal Commissions, Select Committees, etc.	669	1,487	518	22	588	92	36	3,412
Grand Total	**69,830**	**16,846**	**13,412**	**9,823**	**7,554**	**8,096**	**4,650**	**130,210**

(*a*) Salaries and other expenses, including maintenance of house and grounds. (*b*) Salaries, travelling and other expenses as ministers. (*c*) Allowances to members (including ministers' salaries as members), travelling and other expenses. (*d*) Government contribution to members' superannuation funds, printing, reporting staff, library, etc. (*e*) Services, furniture, stores, etc. (*f*) Salaries, cost of elections, etc.

OUTLAY ON PARLIAMENTARY GOVERNMENT

Year	*Cwlth.*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
			TOTAL ($'000)					
1972-73	23,515	5,310	4,490	3,182	2,677	2,516	1,316	43,006
1973-74	38,926	7,378	5,218	4,340	3,190	4,213	1,935	65,200
1974-75	44,113	8,047	7,194	6,332	3,895	4,865	2,461	76,907
1975-76	53,680	12,454	12,541	7,839	5,207	6,333	3,031	101,086
1976-77	60,698	14,181	12,434	7,616	5,995	7,256	4,525	112,705
1977-78	69,830	16,846	13,412	9,823	7,554	8,096	4,650	130,210
			PER HEAD OF POPULATION ($)					
1972-73	1.77	1.11	1.24	1.64	2.21	2.33	3.33	3.24
1973-74	2.89	1.53	1.43	2.16	2.60	3.82	4.86	4.83
1974-75	3.22	1.65	1.94	3.07	3.12	4.29	6.11	5.62
1975-76	3.88	2.54	3.36	3.74	4.14	5.47	7.46	7.30
1976-77	4.34	2.87	3.30	3.59	4.73	6.13	11.06	8.05
1977-78	4.93	3.38	3.53	4.56	5.89	6.69	11.28	9.19

Commonwealth Government Departments

For current detailed information on the Acts administered, the functions and the organisation of the Departments and Agencies of the Commonwealth Government *see* the *Commonwealth Government Directory.*

Acts of the Australian Parliaments

In the Commonwealth Parliament all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Australian Constitution. In all States, other than South Australia and Tasmania, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council (except in Queensland) and Legislative Assembly. In South Australia and Tasmania laws are enacted in the name of the Governor of the State, with the advice and consent of the Parliament in the case of South Australia, and of the Legislative Council and House of Assembly in the case of Tasmania. Generally, assent to Bills passed by the Legislatures is given by the Governor-General or State Governor acting on behalf of, and in the name of, the Sovereign. In certain special cases Bills are reserved for the Royal Assent. The Parliaments of the States are empowered generally, subject to the Australian Constitution, to make laws in and for their respective States in all cases whatsoever. Subject to certain limitations they may alter, repeal, or vary their Constitutions. Where a law of a State is inconsistent with a law of the Commonwealth Parliament, the latter law prevails and the former law is, to the extent of the inconsistency, invalid.

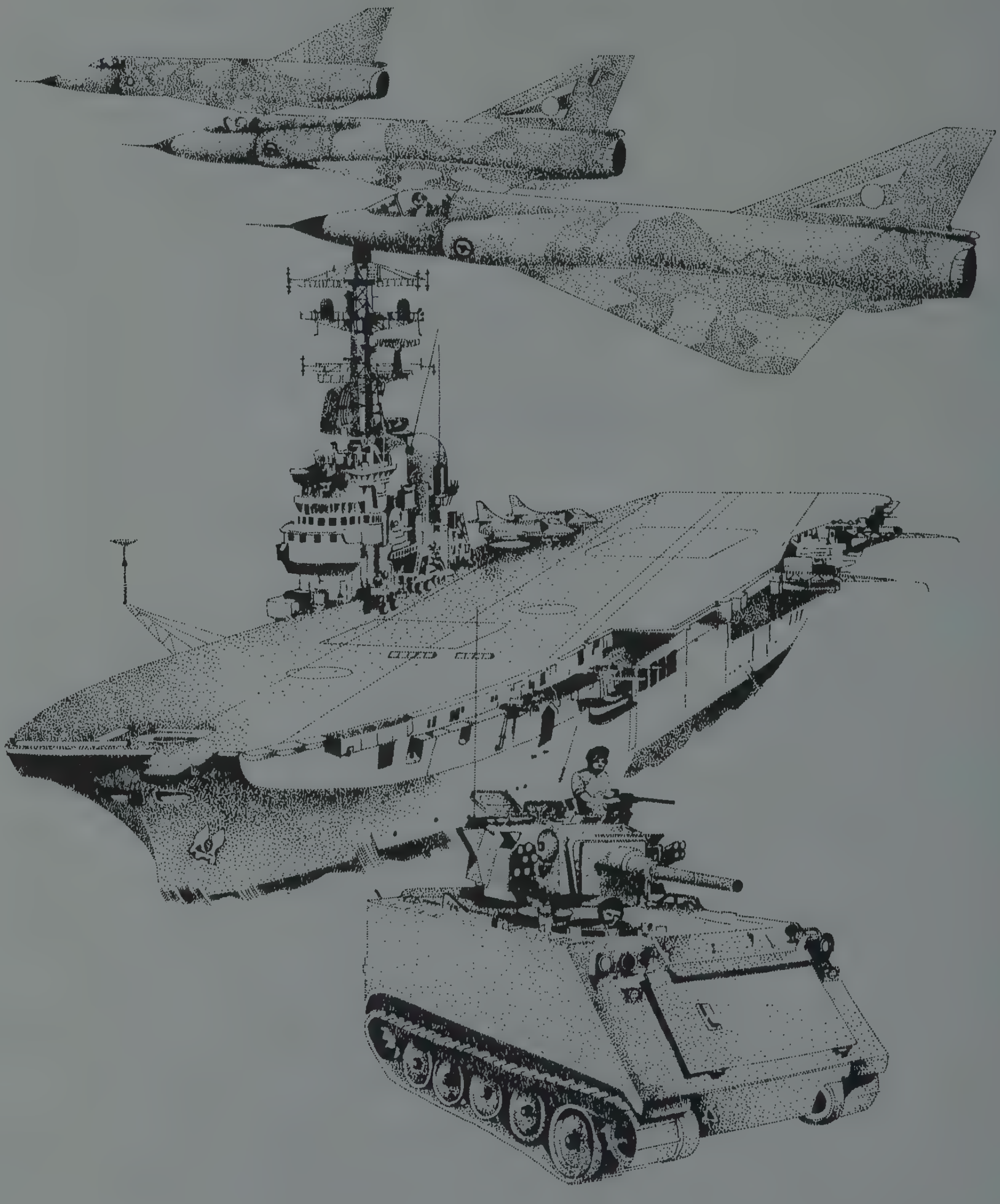
The course of Commonwealth Parliament legislation

The legislation passed by the Commonwealth Parliament between 1901 and 1973, and which was then still in operation, is published in a consolidated form entitled *Acts of the Parliament 1901–1973.* Since 1974, annual volumes of Acts have also been published. The consolidation contains a chronological table of Acts passed from 1901 to 1973, showing how they are affected by subsequent legislation or lapse of time, together with a table of legislation of the Commonwealth Parliament passed from 1901 to 1973 in relation to the several provisions of the Australian Constitution. Reference should be made to these for complete information.

The following figures indicate the variation over the years in the number of enactments of the Commonwealth Parliament since 1901 : 17 Acts were passed in 1901, 36 in 1914, 38 in 1927, 87 in 1939, 109 in 1952, 156 in 1965, 157 in 1968, 223 in 1973, 166 in 1974, 121 in 1975, 209 in 1976, 161 in 1977 and 211 in 1978.

CHAPTER 4

DEFENCE



CHAPTER 4

DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher defence organization; the functions, organization, manning and training of the three Services; the functions and activities of the Defence Science and Technology Organization; the Natural Disasters Organisation; and the functions of defence production.

Further information on Australia's strategic environment and defence policies and programming is contained in the Government's White Paper on Australian Defence tabled in Parliament on 4 November 1976 and supplementary statements made to the House of Representatives by the Minister for Defence on 22 September 1977 and 24 October 1978. Further factual information on the programs and activities of the Department and the Defence Force is contained in past Defence Reports and other publications issued by the Department of Defence.

Current defence policy

The primary aim of Australian defence policy is to ensure the security of Australia and its Territories. While Australia's strategic prospects are judged on balance to be favourable, there are uncertainties which must be insured against. Defence policy is to maintain the ability to deploy a balanced force to cope with a range of lesser situations, or to expand in time should the need arise to meet a serious emergency.

The Australian alliance with the United States under ANZUS gives substantial grounds for confidence that, in the event of a fundamental threat to Australia's security, U.S. military support would be given. However, even though her security may be ultimately dependent upon U.S. support, Australia owes it to herself to be able to mount a national defence effort that would maximise the risks and costs to any aggressor.

Short of this major and improbable situation, Australia could face a range of other situations that she should expect to handle more independently. The requirements and the scope for Australian defence activity are today confined basically to areas close to home—areas in which military deployments by a power potentially unfriendly to Australia could permit that power to attack or harass Australia itself or Australian Territories, or the maritime resources zone and the nearer lines of communication.

The promotion of increased self-reliance derives essentially from our own national interests and responsibilities. It also accords with Australia's status as an ally of the United States: by accepting local responsibilities, Australia can contribute to the alliance relationship and to the U.S. global effort.

Australia remains deeply mindful of her natural associations with the liberal democracies and with the Western strategic community. Additionally, Australia maintains her concern for the security and development of the strategic neighbourhood—South-East Asia, Papua New Guinea and the South-West Pacific. High value continues to be placed on her defence links with the region.

Higher defence organization

Legislation concerning the present organization of the higher management of the Defence Force and the Department of Defence was passed by the Commonwealth Parliament in September 1975 and became effective on 9 February 1976. It specifically recognised that responsibility for the general control and administration of the Defence Force rests with the Minister for Defence.

The Chief of Defence Force Staff exercises command of the Defence Force through the three Service Chiefs of Staff (Navy, Army and Air) who are the professional heads and have responsibility for the management of their respective arms of the Defence Force. The Chief of Defence Force Staff is the principal military adviser to the Minister.

The Secretary, Department of Defence has the powers and functions generally prescribed for such appointments in the Australian Public Service Act, but these are qualified by the statutory authority of the Chief of Defence Force Staff and by Ministerial directives to the Secretary, enjoying responsiveness of the Public Service structure to the operational priorities of the Chiefs of Staff. The

Secretary is responsible to the Minister for advice on general policy, financial policy, and on the management and utilisation of defence resources. As Permanent Head, the Secretary, is responsible under the terms of the *Audit Act* 1901 for financial operation of the Department and to furnish to the Secretary of the Department of Finance information relating to, and explanations of, the receipts and expenditure of the Department and other requirements of section 50 of the Act. Central Administration is divided functionally into areas concerned with manpower and financial services, strategic policy and force development, management and infrastructure services, supply and support, and defence science and technology.

The Chief of Defence Force Staff and the Secretary, Department of Defence advise the Minister on matters involving their joint responsibility in respect of administration of the Defence Force. The three Service Chiefs of Staff, the Chief of Defence Force Staff and the Secretary, Department of Defence all have the right of direct access to the Minister.

Higher defence machinery

The *Council of Defence* considers and discusses matters referred to it by the Minister relating to the control and administration of the Defence Force and the respective Arms of the Defence Force. The Council is chaired by the Minister for Defence and membership includes the Minister Assisting the Minister for Defence, the Chief of Defence Force Staff, the Secretary of the Department of Defence and the Chiefs of Staff.

An extensive committee system exists to identify the respective Armed Services' operational requirements to meet defence objectives. It is also designed to facilitate the professional management of military careers, the sound management of resources and the development of general policy. The committee system brings together the expertise of both military and civilian members in the internal policy formulating process and the proffering of advice to Government. The more important committees are described below:

The *Defence Committee*, chaired by the Secretary with the Chief of Defence Force Staff, the three Chiefs of Staff, and the Secretaries of the Departments of the Prime Minister and Cabinet, Treasury and Foreign Affairs as members. It advises the Minister on general defence policies calling for co-ordinated information and advice about strategic, military, foreign affairs and economic aspects.

The *Chiefs of Staff Committee*, chaired by the Chief of Defence Force Staff, is responsible for providing the Minister with collective professional advice on military operations; military implications of defence policy; endorsement of military plans; and other related subjects.

The *Defence Force Development Committee*, chaired by the Secretary with the Chief of Defence Force Staff and the three Chiefs of Staff as members. It is primarily concerned with the formulation of the Five Year Defence Program and with advising the Minister on related matters encompassed by it.

EXPENDITURE ON THE DEFENCE FUNCTION
($'000)

	Actual Expenditure					*Estimated Expenditure*
Departmental Category	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*	*1979–80*
Department of Defence						
Capital equipment	90,050	151,589	281,200	319,238	406,880	442,554
Defence facilities	121,846	112,437	116,837	111,596	90,828	92,673
Defence co-operation	88,647	38,951	25,369	26,952	24,600	28,493
Manpower including Defence Force Retirement and Death Benefits	1,008,998	1,112,147	1,222,941	1,333,830	1,413,667	1,525,409
Other running costs	366,588	437,665	504,031	569,285	633,872	742,292
Total (a)	*1,676,129*	*1,852,789*	*2,150,378*	*2,360,900*	*2,569,847*	*2,831,422*
Department of Productivity and other Departments						
Capital equipment	12,246	10,520	7,762	6,410	10,167	12,509
Defence facilities	5,574	7,469	9,234	8,832	6,915	8,898
Manpower costs	21,583	8,095	9,115	9,641	9,484	7,775
Other running costs	75,116	64,384	78,167	85,246	89,870	94,721
Total (b)	*114,519*	*90,468*	*104,278*	*110,129*	*116,436*	*123,903*
Provision for increase in wages/salaries	..	..	..	..	..	30,000
Total defence function expenditure	**1,790,648**	**1,943,257**	**2,254,656**	**2,471,029**	**2,686,283**	**2,985,325**

(*a*) Research and Development formerly with the Department of Productivity integrated with Defence Science and Technology of the Department of Defence during 1974–75. (*b*) Historic data up to and including 1974–1975 has not been adjusted for the reclassification of Department of Productivity expenditure attributable to the Defence Functions.

The acquisition of Boeing 707 (VIP) aircraft cost $10,201,000 in 1978–79, bringing the total defence expenditure for that year to $2,696 million. A further $4,374,000 is expected to be spent on the aircraft during 1979–80.

Equipment for the Defence Force

An amount of $417.0 million (excluding Boeing 707 aircraft) was spent on equipment of a capital nature in 1978–79. An amount of $455.1 million is expected to be spent in 1979–80.

The major equipment items received by the Services in 1978–79 included 6 P3C *ORION* aircraft, 12 C-130H *HERCULES* aircraft, 2 *NOMAD* aircraft, 14 *LEOPARD* gun tanks, 27 fire support vehicles, 16 medium girder bridge trailers, 410 light trucks, 10 light duty tracked tractors, 46 off-pavement forklifts, 16 medium duty graders, 38 light armoured fighting vehicles, 5 Rapier optical low-level air defence fire units, 3 work boats, 2 Boeing 707 aircraft, 8 submarine fire-control systems, 1 F-111C reconnaissance modification kit and the procurement of a second *UNIVAC* miniframe computer.

Major new equipments planned for delivery in 1979–80 include 1 amphibious heavy lift ship *(HMAS TOBRUK)*, 1 patrol craft *(HMAS FREMANTLE)*, 1 oceanographic ship *(HMAS COOK)*, 3 F-111C reconnaissance modification kits, 21 fire support vehicles, 3 water/dieso lighters, 15 Rapier optical low-level air defence fire units, 400 light trucks, 2 *LEOPARD* tanks (recovery vehicles), 7 work boats, 7 precision approach radars, 1 air traffic control surveillance radar, 44 fire fighting vehicles, and 67 medium and light duty tracked tractors.

New major capital equipment decisions approved in the context of the 1979–80 Budget include a continuation of the Mirage refurbishment program, a new tactical air defence system for the RAAF, a precision approach radar for RAN Nowra, 4 new 30 metre survey motor launches, an update program for the RAN's six *OBERON* submarines to provide a capability to launch while submerged the anti-ship missile *HARPOON*, new UHF radios for existing fleet vessels, new HF radio systems for our primary defence trunking communications systems, and an upgrading of heavy calibre forging facilities for the production of heavy ammunition for the Army and Navy.

Defence manpower

Employment

The following table indicates the range of activities and occupations in which defence military and civilian manpower are involved.

FUNCTIONAL DISTRIBUTION OF DEFENCE MANPOWER AS AT 30 JUNE 1979

	Service	*Civilian*	*Total*
Operational forces and direct logistic support	30,390	760	31,150
Specialist support (e.g. communications, medical services)	4,900	3,870	8,770
Stores and supply; storage and control	2,965	4,670	7,635
Dockyards, equipment production, repair and overhaul	3,015	6,640	9,655
Training	18,360	1,570	19,930
Support to reserves and cadets	1,405	110	1,515
Research and development	315	4,940	5,255
Central headquarters and administration including overseas representation	3,510	3,110	6,620
Regional commands and administration	5,045	3,800	8,845
Defence co-operation	295	–	295
Total	**70,200**	**29,470**	**99,670**

NOTES: Figures have been rounded.
Figures cannot be reconciled with those in previous Year Books owing to changes within classifications.
Civilian figures include only full-time operatives and exclude 1,269 locally-engaged civilians overseas, persons on extended leave and part-time staff.

Permanent Defence Force

PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE

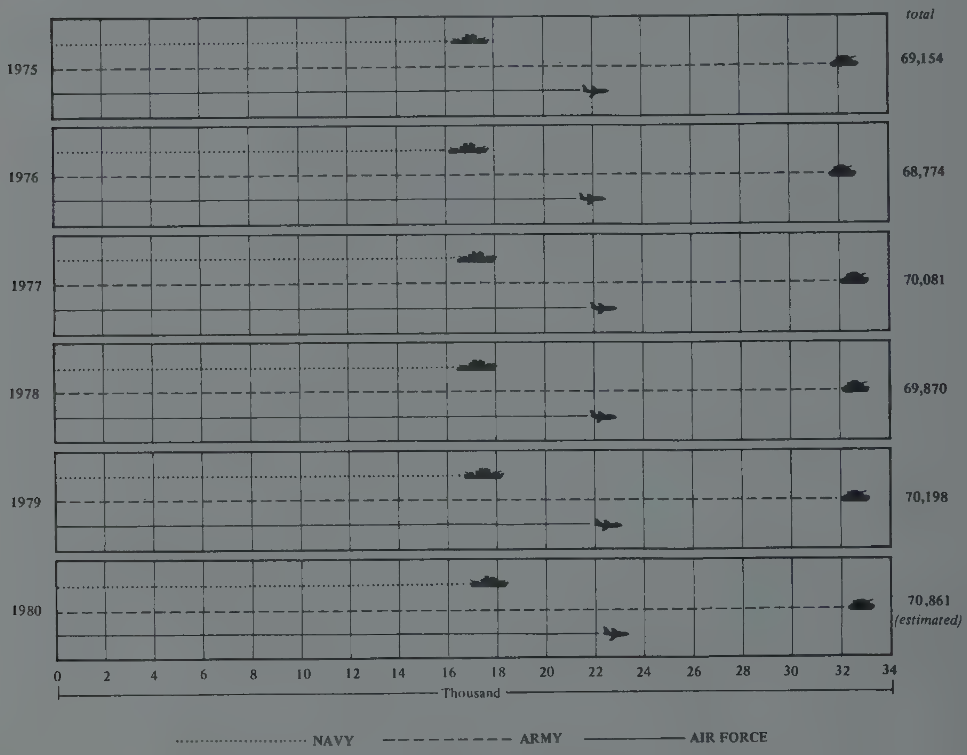


PLATE 27

COMPOSITION OF PERMANENT DEFENCE FORCE (*a*)
as at 30 June 1979

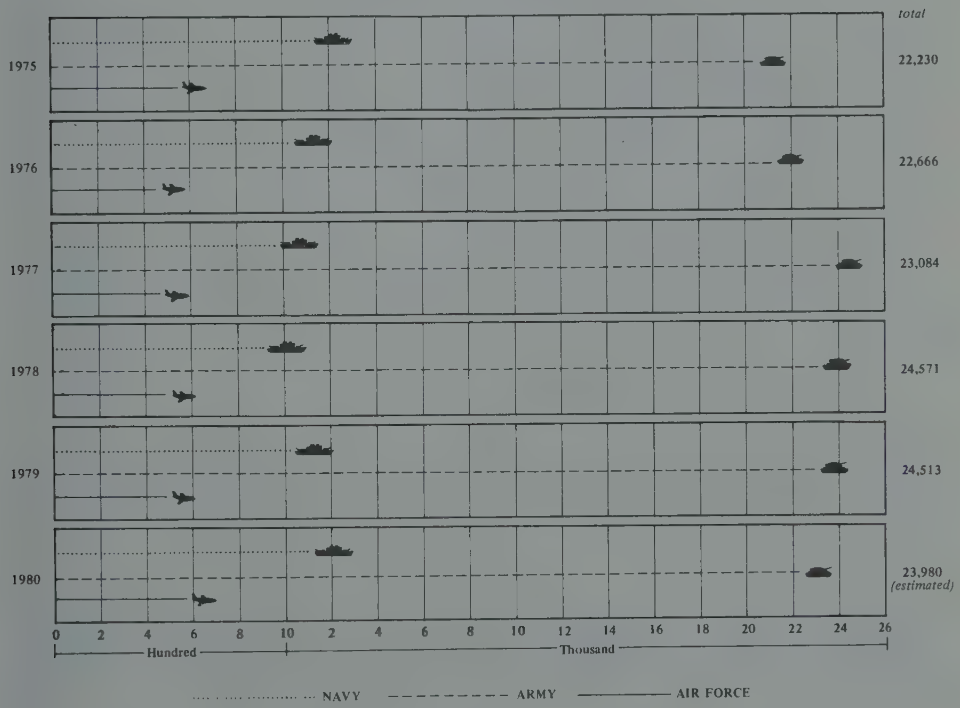
	Navy	*Army*	*Air Force*	*Total*
Male—				
Officers	1,992	4,168	3,340	9,500
Other ranks	12,352	24,788	16,232	53,372
Cadets	375	447	368	1,190
Apprentices	682	868	356	1,906
Junior recruits	244	—	—	244
Total	*15,645*	*30,271*	*20,296*	*66,212*
Female (*b*)—				
Officers	75	237	165	477
Other ranks(*c*)	862	1,305	1,342	3,509
Total	*937*	*1,542*	*1,507*	*3,986*
Total Strength	**16,582**	**31,813**	**21,803**	**70,198**

(*a*) Citizen Forces and reserves on full time duty are included in the appropriate category. (*b*) Females serve in the Women's Royal Australian Naval Service, the Royal Australian Naval Nursing Service, the Women's Royal Australian Army Corps, the Royal Australian Army Nursing Corps and other Army Specialist corps. (*c*) Includes female officer cadets.

Reserve Forces

Reserves comprise trained and partly trained volunteers who are available to participate in the defence of Australia and its interests in times of war or defence emergency. Royal Australian Navy and Royal Australian Air Force Reserves can be used to supplement and increase the rate of effort of the Permanent Forces. The Army Reserve consists mainly of formed units and sub-units, which, with the Regular Army, provide the basis for expansion of the Army.

PERSONNEL STRENGTHS OF THE RESERVE FORCES (a)



(a) Strengths refer to Reserves with a training obligation and exclude those members who are serving full time in the Permanent Defence Force, but includes all other listed Reserve members including some who have not fulfilled their minimum training obligations.

PLATE 28

Defence co-operation

In support of Australia's defence policy, the Government conducts defence co-operation program activities with South-East Asian and South Pacific countries. These activities include joint projects, training in Australia, loan of personnel and combined military exercises.

In 1978–79, expenditure on defence co-operation with Papua New Guinea totalled $11.5 million. This included the loan of Australian servicemen to P.N.G., training for P.N.G. servicemen in Australia, survey and engineering projects in P.N.G. and the provision of defence equipment.

Expenditure on the Defence Co-operation Program with Indonesia in 1978-79 amounted to $7.2 million. Major current projects include the survey and mapping of Irian Jaya, and the Maluccas, Sioux helicopters, language training, defence research and development, and a maritime patrol project (involving patrol boats and Nomad aircraft).

Annual expenditure on defence co-operation with Malaysia and Singapore is approximately $4.0 million and $0.5 million respectively. Major continuing projects in Malaysia include an Armed Forces manufacturing workshop, Special Warfare Training Centre and Defence Research Centre. Assistance to Singapore is mainly training in Australia and loan of advisory personnel.

Assistance to South-West Pacific countries includes technical advisory assistance, project and equipment aid, and the provision of training in Australia. In 1978–79 expenditure on defence co-operation totalled $1.4 million.

Training-in-Service training establishments in Australia is an important part of defence co-operation activities. Between 600–700 overseas personnel are trained in Australia each year by the three Services.

Defence representation overseas

Defence representatives are accredited to Afghanistan, Britain, Canada, France, India, Indonesia, Iran, Japan, Republic of Korea, Malaysia, Nepal, New Zealand, Pakistan, Papua New Guinea, the Philippines, Singapore, Thailand and the United States of America.

Defence Force activities overseas

The main areas in which Australian Defence Force elements have been deployed overseas during the year are Malaysia/Singapore and Papua New Guinea. Units have also visited Indonesia, the Philippines, Japan, New Zealand, and the United States.

Australian Defence Force elements in the Malaysia/Singapore area include:

Navy—A destroyer or destroyer escort is maintained in South-East Asian waters for much of the year;

Army—An Australian Army infantry company is maintained at Butterworth on a basis of three month detachments from Australia in a training role;

Air Force—Two squadrons of Mirage fighter aircraft are maintained at Butterworth in Malaysia, with a detachment at Tengah in Singapore.

The Defence Force continued to contribute to United Nations peace-keeping operations with a RAAF helicopter contingent and a small RAN element in Sinai, and Australian Army observers in Kashmir and the Middle East.

THE DEFENCE FORCE

Royal Australian Navy

The RAN maintains and exercises a modern, well-equipped and highly-trained maritime force. The structure of this force is based primarily on the provision at sea, of a balanced force group, consisting of surface warships, naval aviation and submarines.

Higher organisation

The Chief of Naval Staff has command of the RAN, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of the Naval Staff, and the Chief of Operational Requirements and Plans, the Chief of Personnel, the Chief of Technical Services, and the Chief of Materiel. Other senior officers of the RAN include the Flag Officer Commanding HM Australian Fleet and the Flag Officer Naval Support Command.

Ships of the Royal Australian Navy

The Fleet, October 1979: *Melbourne*–aircraft carrier; *Supply*–oiler; *Stalwart*–destroyer tender; *Perth, Hobart, Brisbane*–guided missile destroyers; *Vampire*–destroyer; *Yarra, Parramatta, Stuart, Derwent, Swan, Torrens*–destroyer escorts; *Jervis Bay*–training ship; *Curlew, Snipe*–coastal minehunters; *Ibis*–coastal minesweeper; *Moresby, Flinders*–surveying ships; *Diamantina, Kimbla*–oceanographic research ships; *Otway, Onslow, Ovens, Otama, Oxley, Orion*–submarines; *Attack, Acute, Advance, Adroit, Ardent, Assail, Aware, Barbette, Barricade, Bayonet, Bombard, Buccaneer*–patrol boats; *Banks, Bass*–general purpose vessels; *Brunei, Labuan, Tarakan, Wewak, Betano, Balikpapan*–heavy landing craft.

Fleet Air Arm

The Fleet Air Arm maintains three front line squadrons for embarkation in the operational carrier HMAS *Melbourne.* These squadrons currently consist of Skyhawk A4G fighter ground-attack aircraft, Tracker S2G anti-submarine aircraft and Sea King Mk 50 anti-submarine helicopters. Three training and support squadrons are based at the RAN Air Station, Nowra, New South Wales. Other aircraft operated by the Navy are the Bell 206B helicopter in the survey ship HMAS *Moresby*, Iroquois UH1B and Wessex 31B helicopters (utility tasks, and search and rescue), HS-748, S2Es, Macchi trainer and Jindivik pilotless target aircraft.

Ship construction and repairs

There are two naval dockyards, one at Garden Island, Sydney and one at Williamstown, near Melbourne. A third yard at Cockatoo Island in Sydney harbour is operated by Vickers Cockatoo Dockyard Pty Ltd under agreement with the Australian Government; this Company carries out considerable naval refitting work, particularly of submarines, and in August 1979 was awarded a building contract for the RAN's new replenishment ship.

Other current construction projects include one patrol boat being built in the United Kingdom and fourteen in Cairns, three guided missile frigates in the United States of America, and one amphibious heavy lift ship in Newcastle, New South Wales.

Modernisation of three destroyer escorts is being undertaken by Williamstown Naval Dockyard where construction of the oceanographic ship HMAS *COOK* has just been completed.

Training and entry

Officer entry. The Royal Australian Naval College at Jervis Bay is the training centre for officers in the RAN. Male applicants for permanent service are selected either after completing Year 10 (at fifteen or sixteen years of age) or after matriculating, to age twenty. The majority of these officers study for degrees in Arts, Science or Engineering at the University of N.S.W. Male and female applicants for short-service are selected after completing Year 12, to age twenty three. Entry is also available to professionally qualified persons, such as doctors, dentists, teachers, engineers and lawyers.

Sailor entry. There are a number of entry schemes available, depending upon an individual's age, educational standard and own particular interests. These include:

- *HMAS Nirimba* at Quaker's Hill, New South Wales, is the primary establishment for all RAN trade training which includes courses for apprentices aged between fifteen and seventeen-and-a-half and technical training for general entry personnel.
- *HMAS Leeuwin* at Fremantle, Western Australia, is the junior recruit training establishment for boys aged between fifteen-and-three-quarters and sixteen-and-a-half.
- *HMAS Cerberus* at Westernport, Victoria, is the main training establishment for general entry enlisted members aged between seventeen and twenty-six. Recruits receive twelve weeks basic training before advancing to specialist training courses.

On completion of initial training further branch and category training is undertaken at the various schools at *HMAS Penguin*, *HMAS Watson* and *HMAS Nirimba* in Sydney, *HMAS Cerberus* in Victoria and the Naval Air Station at Nowra, New South Wales. A number of specialised training courses are conducted in the United Kingdom and the United States.

Australian Army

The Australian Army maintains a potential ability and readiness to conduct operations on land for the defence of Australia and, in co-operation with the other arms of the Australian Defence Force, shares a responsibility to deter aggression, to ensure the nation's security and to preserve its national interests.

Higher organisation

Command of the Army is the responsibility of the Chief of the General Staff, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. He has for his principal staff officers the Deputy Chief of the General Staff, the Chief of Operations, the Chief of Personnel, the Chief of Logistics, the Chief of Materiel and the Chief of the Army Reserve.

The Army is organised into three commands as follows:

- *Field Force Command* which commands all field force units of the Australian Army, both Regular and Army Reserve.
- *Logistic Command* which commands the principal logistic elements of the Army.
- *Training Command* which is responsible for all individual training and commands all Army training establishments and schools with the exception of the Royal Military College, Duntroon (which is under the command of the Chief of the General Staff).

Military Districts as listed below provide administrative support for the three commands, and, in certain cases act as intermediate headquarters for them:

- *1st Military District*—the State of Queensland.
- *2nd Military District*—the State of New South Wales, less those parts included in 3rd and 4th Military Districts.
- *3rd Military District*—The State of Victoria and part of southern New South Wales.
- *4th Military District*—the State of South Australia, plus a portion of south-western New South Wales.
- *5th Military District*—the State of Western Australia.
- *6th Military District*—the State of Tasmania.
- *7th Military District*—the Northern Territory.

The military district headquarters also handle those matters in which both Commonwealth and State Governments are involved.

Training

Australian Staff College. The Australian Staff College is located at Queenscliff, Victoria. The course is held annually and is of twelve months duration. The normal intake is eighty students, twenty of whom are from overseas countries. The course is intended to train selected officers for appointments in all branches of the staff in peace and war and to prepare them to assume, after experience, command and higher staff appointments.

Royal Military College. The Royal Military College was established in 1911 at Duntroon in the Australian Capital Territory to provide trained officers for the Army. The conditions of entry are laid down in the Royal Military College Regulations. The course is either four or five years of military and academic studies depending upon the academic course undertaken. On graduation, cadets are appointed lieutenant in the Australian Regular Army.

Officer Cadet School. The Officer Cadet School was established in 1951 at Portsea, Victoria, to increase the rate at which junior regimental officers could be produced for the Australian Army. Civilians between eighteen-and-a-half and twenty-two-and-a-half years are eligible for entry. Serving soldiers are eligible for entry from eighteen-and-a-half up to twenty-seven years. Civilians accorded special entry status because of completed or part completed tertiary qualifications are eligible for entry between eighteen-and-a-half and twenty-five years. The course lasts for forty-four weeks and, on graduation, cadets are appointed second lieutenants in the Australian Regular Army.

Women's Royal Australian Army Corps School. The WRAAC School at Mosman, New South Wales, has two wings: one whose task is the training of officer cadets for the WRAAC; and one which is a basic training wing. The officer cadets are selected on the same criteria as entrants to the Officer Cadet School. The course is of forty weeks duration and, on graduation, cadets are appointed second lieutenants in the Women's Royal Australian Army Corps.

Land Warfare Centre. The Land Warfare Centre at Canungra provides training for personnel in tactics and administration and conducts sub-unit and individual training in battle skills.

Army Apprentices School. The Army Apprentices School was opened in 1948 at Balcombe, Victoria, to train youths as skilled tradesmen for the Regular Army and to provide them with a background for an Army career. The course is open to youths between the ages of fifteen and seventeen and provides training in a number of highly skilled trades.

Other Schools. Army schools have been established for the major arms and services to train officers and other ranks in the up-to-date techniques of their own arm of service, to qualify them for promotion and to produce trained instructors. Courses at Army Schools are conducted for members of both the Regular Army and Army Reserve.

Royal Australian Air Force

The function of the Royal Australian Air Force is the conduct of operations in the air for the defence of Australia and Australian interests.

Higher organisation

The Chief of the Air Staff (CAS) has command of the Royal Australian Air Force subject to the overall command of the Defence Force by the Chief of Defence Force Staff. The CAS is assisted in his decisions by an advisory committee which includes the Deputy Chief of the Air Staff, Chief of Air Force Personnel, Chief of Air Force Technical Services, Chief of Air Force Operations, Chief of Air Force Materiel, Director General Supply—Air Force, Assistant Secretary Resources Planning, and other senior officers or specialists as may be directed by the CAS. The Committee has no statutory authority nor executive function and the CAS is not obliged to accept its recommendations.

The Chief of Air Staff administers and controls RAAF units in Australia through two commands: Operational Command and Support Command. Operational Command is responsible to the CAS for the command of operational units and the conduct of their operations within Australia and overseas. Operational units based at Butterworth, Malaysia, contribute to the development of the Malaysian and Singapore defence capability and provide forces for the Integrated Air Defence System. An operational unit in the Middle East contributes to United Nations peace keeping activities. Support Command is responsible to the CAS for training of personnel, and the supply and maintenance of Service equipment.

Structural organisation

The RAAF has five operational elements, the units of which actively and directly participate in air operations. These elements are the strike/reconnaissance force, tactical fighter force, air transport force, tactical air support force and the maritime force. The strike/reconnaissance force provides a capability for offensive air operations against land and naval targets, and a long range reconnaissance capability. The tactical fighter force is responsible for air superiority, air defence and air interdiction operations, and also provides close air support to sea and land forces. The air transport force is used for routine strategic and domestic transport, and in addition has a tactical transport role. Tactical transport and close air support aircraft normally operate within a tactical air support force which is usually controlled by a joint (Air Force/Army) headquarters. Maritime forces are primarily employed in ocean surveillance, anti-submarine warfare and search and rescue. Major maritime operations are controlled by a joint (Air Force/Navy) headquarters.

The support component consists of those units and personnel which support units of the operational component. The elements are maintenance, supply, air training, ground training, administrative and the Citizen Air Force.

Aircraft

The RAAF's strike/reconnaissance force is currently equipped with F111C and Canberra aircraft. The air defence and ground attack squadrons are equipped with the Mirage 111-0. Transport aircraft currently in use are Hercules C130H and C130E, Caribou, Dakota, Mystere 20, HS748, Boeing 707, and BAC1-11. Three squadrons operate Iroquois helicopters and one operates the Chinook medium lift helicopter. The two maritime squadrons operate Orion P3B and P3C aircraft. Aircraft used for basic training are the CT4 Airtrainer, Macchi and HS748.

Training

RAAF Academy. The RAAF Academy at Point Cook, Victoria is an affiliated college of the University of Melbourne. Cadets are selected principally for the General Duties Branch, and, after three years tertiary training, graduate with a Bachelor of Science degree. The Graduate Diploma in Military Aviation is awarded after the completion of a fourth year of aeronautical science and defence studies. Graduates then complete a basic aircrew training course. Cadets selected for the Engineer Branch study the first year at the Academy and then attend the University of Sydney to graduate with a Bachelor of Aeronautical Engineering degree.

Engineer Cadet Squadron. The Engineer Cadet Scheme provides training for degree or diploma status in aeronautical, mechanical, electrical and communication engineering at the Royal Melbourne Institute of Technology and similar institutes in the Melbourne area.

Equipment Cadets. Cadets selected for Equipment Branch duties undertake a three year course at the Darling Downs Institute of Advanced Education in Queensland. They graduate with a Bachelor of Business degree.

Basic Aircrew Training. Flying training for RAAF pilots is conducted at Point Cook, Victoria, and Pearce, WA, while RAAF navigators are trained at East Sale, Victoria. Officer and military training forms part of the flying training course. Trainees receive their wings and are commissioned on graduation. The RAAF also provides pilot and observer training for the RAN and initial pilot training for the Army. Airmen, aircrew for employment as flight engineers, loadmasters and crewmen are trained in two phases: a basic aircrew course at Richmond, NSW, and flying training within the conversion training or operational squadrons.

Aircrew Operational Conversion. Conversion training to Mirage fighter aircraft and Orion Maritime aircraft is conductd by the respective conversion training squadrons. Conversions to other operational aircraft are conducted within the operational squadrons.

Officer Training. With the exception of those officers commissioned from the RAAF Academy or the flying training schools, all officers entering directly (with or without tertiary qualifications), commissioned airmen and airwomen, engineering and equipment cadets and undergraduate students undergo the Officers' Initial Training Course at the Officers' Training School, Point Cook, Victoria.

Staff College. The RAAF Staff College located at Fairbairn ACT, provides staff training and higher service education to selected officers normally of the rank of Squadron Leader. The course, which is of one year's duration, is designed to broaden the students' professional background and to prepare them for command and staff appointments of greater responsibility. A two year correspondence course covering communication skills, military studies, international affairs and management is a compulsory prerequisite for entry to this course.

Ground Training. The major ground training schools are the School of Radio at Laverton, Victoria and the School of Technical Training at Wagga, New South Wales. Both schools provide apprentice and adult trade training for technical and other ground personnel. Training is generally provided in two stages: basic training to bring the trainee to a level of proficiency in his particular trade so that he can be employed as a qualified tradesman, and advanced training on higher level training courses including supervision and management techniques, and specialist courses on particular aircraft or telecommunications systems.

SERVICE ESTABLISHMENTS PROVIDING EDUCATIONAL COURSES OF SIX MONTHS DURATION OR LONGER
AUSTRALIA, 1976 AND 1977

	Students enrolled			*New entrants during year*			*Number completing course during year*		
Establishment	*1976*	*1977*	*1978*	*1976*	*1977*	*1978*	*1976*	*1977*	*1978*
Staff colleges—									
Joint Services Staff College	72	80	82	72	80	82	72	80	82
Australian Staff College	81	80	80	81	80	80	81	80	80
RAAF Staff College	42	42	48	42	42	48	41	42	48
Officer cadet training establishments—									
RANC	112	222	264	92	96	119	56	33	41
RMC	440	432	438	130	142	148	77	52	89
RAAFA	99	96	122	40	42	45	19	21	26
Apprentice schools—									
Navy	283	390	419	170	180	240	168	170	101
Army	537	559	563	260	252	274	197	217	218
Air Force									
Wagga Wagga	274	253	278	149	136	135	104	103	133
Laverton	91	79	77	56	40	37	30	32	38
Other—									
RAN Junior Recruit Training School	496	713	326	801	760	330	673	652	570
RAAF School of Languages	29	37	37	29	37	37	29	37	37

Defence Science and Technology Organization

The Chief Defence Scientist heads the Defence Science and Technology Organization (DSTO) which is engaged in research, analysis, development, trials and evaluation. It consists of a central office and thirteen establishments, a small number of people in overseas posts and some in joint activities with other nations. The DSTO contains about 4,800 staff (including some 1,100 professional) who provide a degree of scientific expertise in most physical sciences and some engineering fields of relevance to defence.

The objective of DSTO is to ensure that Australia takes best advantage of modern technology in its Defence Force. The major activities are: scientific input to Defence policy formulation; solution of Service problems particularly where high technology or special features of Australian physical or military environment are involved; modification and extension of life of Service equipment; development of Australian equipment; evaluation of Service equipment and procedures by trials, exercise analysis or operational research; support to defence industry; international co-operation in defence Research and Development.

The central office of DSTO in Canberra has 3 Divisions:

Programs and Administration Division controls the management and administration of the DSTO forward planning and advises on the optimum deployment of DSTO resources; co-ordinates co-operation with overseas governments and is responsible for information services as well as career planning and assessments.

The Projects and Analytical Studies Division provides management and advice on Major Projects and co-ordinates relevant establishment activities; co-ordinates analytical studies throughout DSTO, manages special joint undertakings with other countries; fosters DSTO contacts with other national science and technology agencies and bodies.

The Service Laboratories and Trials Division plans and executes trials of Defence Force equipment; maintains a source of engineering design for development and modification of military equipment; advises on appropriate engineering and trials standards.

DSTO Establishments

DSTO laboratories are located in eastern and southern Australia. Those primarily concerned with testing and evaluating Service equipment are functionally grouped under the Services Laboratories and Trials Division. The other laboratories are headed by Chief Superintendents and responsible to the Chief Defence Scientist.

The DSTO establishments are:

Advanced Engineering Laboratory, Salisbury, S.A.
*Armed Forces Food Sciences Establishment,** Scottsdale, Tas.
Aeronautical Research Laboratories, Fishermen's Bend, Vic.
Central Studies Establishment, Canberra, A.C.T.
*Engineering Development Establishment,** Maribyrnong and Monegeetta, Vic.
Electronics Research Laboratory, Salisbury, S.A.
*Joint Tropical Trials Research Establishment,** Innisfail, Qld
Materials Research Laboratories, Maribyrnong, Vic.
*Materials Testing Laboratory,** Alexandria, N.S.W.
*Royal Australian Navy Trials Research Laboratory,** Edgecliff, N.S.W.
*Royal Australian Navy Trials and Assessing Unit,** North Sydney, N.S.W.
*Trials Resources Laboratory,** Salisbury, S.A.
Weapons Systems Research Laboratory, Salisbury, S.A.

* Responsible to Chief Defence Scientist through Controller Services Laboratories and trials Division.

Natural Disasters Organisation

The Natural Disasters Organisation (NDO) was established in the Department of Defence in 1974, absorbing the functions of the former Directorate of Civil Defence; the latter had been in the Department of the Interior until moved to Defence in December 1972.

The organisation mitigates the effects of disasters at the request of State and territory counter disaster organisations and in conjunction with the Defence Force, Commonwealth Government Departments and other Government and non-Government organisations; and supports the development of a core civil defence structure. The NDO and the State and Territory Emergency Service organisations constitute the core civil defence structure for Australia, but their main continuing activity in peace is related to mitigation of the effects of disasters. The States and Territories have complete responsibility for their own counter disaster organisations.

At the national level NDO is required to develop and implement contingency plans involving Commonwealth resources to cope with disasters and civil defence needs. The headquarters of the NDO in Canberra provides a focal point for the co-ordination of national effort in disasters and civil defence emergencies. In such emergencies it ensures that, when requested by States and Territories, the full physical support of the Commonwealth Government is made available. A Disaster Earmark Store has been established at the RAAF Stores Depot, Dubbo, NSW from which initial urgent disaster assistance can be provided.

The NDO administers a number of programs from Commonwealth funds for the support of the Emergency Service organisations, namely: the supply of emergency type equipment (radios, rescue vehicles, first aid kits, generators, flood rescue boats, etc); reimbursement of salaries of State/Territory full time organisers at regional level; provision of training films and handbooks, and subsidies on a limited dollar-for-dollar basis to provide accommodation for the State/Territory units at local government level.

Other programs which benefit all organisations with a counter-disaster involvement, and the community at large, are: training, principally at the Australian Counter Disaster College at Macedon, Victoria; emergency broadcasting facilities; a fall out shelter survey service; and a public awareness program.

DEFENCE PRODUCTION

The Government production establishments became one of the functions of the Department of Productivity following its creation on 8 November 1976, the function having previously been the responsibility of the Department of Industry and Commerce (*see* Year Book No. 61, page 109).

Defence production functions of Department of Productivity

The defence production functions of the Department of Productivity are carried out under the *Supply and Development Act* 1939 and include the following:

Planning, establishment, operation and management of facilities producing aircraft, guided missiles, small arms, ammunition, explosives, clothing and other defence goods. Acquisition, maintenance, and disposal of strategic materials, investigation and development of Australian sources of supply of defence material in conjunction with the Department of Defence.

For the performance of the above functions the Department has two production divisions—Munitions Supply, and Aircraft, Guided Weapons and Electronics Supply—supported by Marketing Branch and elements of Central Office and Regional technical and administrative staffs.

Munitions supply

The Munitions Supply Division is responsible for the production of munitions required by the Defence Force. Production is carried out in Government factories, which may place orders with private industry for components and materials. The factories currently in operation and their main products or services are as follows:

Ammunition Factory, Footscray, Victoria (fuses, primers, cartridge cases and small arms ammunition); Clothing Factory, Victoria (uniforms and clothing); Albion Explosives Factory, Deer Park, Victoria (high explosives, propellant); Explosives Factory, Maribyrnong, Victoria (propellants, explosives, rocket motors); Mulwala Explosives Factory, New South Wales (propellants and chemicals); Munitions Filling Factory, St Marys, New South Wales (filling of ammunition and explosive munitions); Ordnance Factory, Bendigo, Victoria (heavy guns, mountings, large gears); Ordnance Factory, Maribyrnong, Victoria (guns, projectiles, heavy forgings, rocket motor components); and Small Arms Factory, Lithgow, New South Wales (rifles, machine guns, mortar shells, calibre shells and fuse components).

Aircraft, guided weapons and electronics supply

Production both in Government factories, and in industry, of aircraft, aero-engines, other aircraft components and guided weapons is the responsibility of this Division. Planning of capacity and negotiation (in conjunction with the government purchasing authority) of contractual arrangements concerning aircraft modification, repair and overhaul, and for the supply of spare parts and airborne equipment for the Services, are also functions of the Division.

The following factories are operated by the Division: Government Aircraft Factory at Fishermen's Bend, Victoria, together with its Final Assembly Workshops and Test Airfield at Avalon, Victoria and the Aircraft Engineering Workshop at Pooraka, South Australia.

A twin turbo-propellor utility aircraft known as Nomad has been designed and developed by the Government Aircraft Factories (GAF) and the Government has approved production of 145 aircraft. A new Mark IV version of the Jindivik is being developed with costs being shared by Britain and Australia. The Ikara anti-submarine weapon system which has been fitted into 9 RAN ships has also been purchased by the British and Brazilian Navies. A commercial workload has also been maintained, a prime activity being the production of components for Boeing aircraft.

Marketing

Overseas sales orders of munitions items in 1978–79 amounted to approximately $4.5 million, the main items sold being the Firing Device Demolition to the U.S.A., RDX/T.N.T. and propellant to the U.K. and rifle spares to Malaysia.

Finance

The total outlay by the Department of Productivity on defence-orientated activities was $93.6 million during 1978–79. This was in addition to a turnover of $85.2 million by the Government Factories through their trust accounts.

Personnel

At 30 June 1979, 8,333 personnel were employed on specifically defence-orientated functions (excluding general financial and administrative management support) as follows: administration 186; aircraft production 2,360; munitions production 4,764; miscellaneous production 679; and overseas staff 5.

CHAPTER 5

INTERNATIONAL RELATIONS

CHAPTER 5

INTERNATIONAL RELATIONS

Australia's international relations have developed as a natural outcome of the country's growth from 19th century colonial status to independent nationhood. Initially, Britain and the Commonwealth countries were the chief preoccupations. Later, partly as a consequence of the vital role played by the United States of America in the Pacific in the 1939–45 War and during the Cold War period, close relations were also developed with that country. These links, and links with Western Europe, remain important factors in Australian policy.

Australia strongly supports efforts to increase stability and development in neighbouring regions. Special attention is being given to developing Australia's bilateral relationships with China, Japan, the Association of South-East Asian Nations (ASEAN) and its members, Papua New Guinea, New Zealand and the Pacific islands.

New international issues (economic, resources, human rights, etc.) and new concepts of national interest are emerging, together with an increasing recognition of the growing interdependence of the world community. This is reflected in economic issues becoming one of the priorities in Australia's foreign policy. Australia's recognition of the serious implications that many of these issues have for the relationships between developed and developing countries was shown by the establishment in 1978 of a Committee on Australia's Relations with the Third World. The Committee's report was issued in September 1979. Australia places a high priority on its participation in the resolution of these global issues in the United Nations, the Commonwealth and other multilateral forums.

The Great Powers

The close and extensive relations with the United States are a reflection of the common interests, values and outlook of the two countries. The relationship is formally expressed in the ANZUS Treaty of 1952. Relations extend, however, well beyond formal Government-to-Government ties into every field of public and private activity.

Australia attaches importance to its relations with the Soviet Union, and is working to develop improved co-operation, particularly in the trade, scientific and cultural fields, in which agreements have been signed between the two countries.

Since the establishment of diplomatic relations with China in 1972, links have been steadily strengthened. Cultural and trade relations have developed, as have consultations on international issues of mutual concern. There is a growing number of visits between the two countries.

Australia gives high priority to developing and strengthening its relations with Japan, both bilaterally and in international forums. The two nations have become highly interdependent in economic terms: Japan is Australia's biggest trading partner and Australia is an important export market for Japan. Cultural ties are being developed in conformity with the Cultural Agreement between the two countries.

Asia

Australia believes that peace and prosperity in Asia depends largely on the ability of countries in the region to co-operate to secure these objectives and in ensuring that no major power, either inside or outside the region, is able to exert an undue influence in the area.

Australia's primary interest and concern in Asia has long been reflected in its active role in regional associations and organisations such as the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Colombo Plan, the Asian Development Bank and in many other bodies, both private and government.

Australia has welcomed the progress achieved by ASEAN, and its contribution to the promotion of regional co-operation. Australia has a significant interest in helping to ensure that ASEAN succeeds in generating economic growth and political stability, and supports ASEAN's objective of preventing domination of the region by any major power. Australia has entered a program of economic co-operation with ASEAN to which it has pledged a total of $29.7 million.

Australia is developing its relations with Laos and gives it a modest amount of aid. Australia maintains normal diplomatic relations with Vietnam but the bilateral relationship has been affected by Vietnam's invasion of Kampuchea and the refugee exodus.

Australia places great value on cordial and close relations with Indonesia.

Australia recognises the strategic and political importance of the Indian sub-continent and has continued to strengthen friendly relations with the countries of that region. The Australian Prime Minister paid a State visit to India in January/February 1979.

South Pacific

Australia looks to consolidate and to expand its co-operative activities to promote the stability, welfare, harmony and economic development of the region. Australia was a foundation member of the South Pacific Commission, the South Pacific Forum and the South Pacific Bureau for Economic Co-operation. Matters of common interest are regularly discussed with Australia's Pacific partners.

In important developments in the South Pacific relating to law of the sea and fisheries, Australia is co-operating in efforts by countries of the region to secure the maximum benefits from marine resources. It has become a party to the convention establishing the Forum Fisheries Agency. Australia has established a fund to promote the preservation and development of Pacific cultures.

Papua New Guinea, Australia's nearest neighbour and former territory, attained independence on 16 September 1975. It continues to be given high priority in bilateral relations. Australia each year provides a substantial budget grant to Papua New Guinea amounting in 1979-80 to $223 million. Australia has pledged at least $84 million for the other Pacific Island states over the next three years (1979-80 to 1981-82).

New Zealand

The relationship between Australia and New Zealand is one of the closest between any two countries in the world. There is extensive contact and co-operation of all levels of Government and between private groups and individuals based on historical, cultural and geographical affinities. Both Governments have recently established Australia-New Zealand Foundations to strengthen the relationship even further and are examining the possibility of closer economic association.

Western Europe

Australia attached importance to maintaining friendly relations with the European Communities (EC) and its members. In May, Australia was able to conclude a bilateral trade agreement with the EC in the Multilateral Trade Negotiation's context. That agreement went some way towards removing the significant trade imbalance between Australia and the EC. Although a number of trading difficulties remain; prospects for closer ties based on an interdependent and mutually advantageous commercial relationship, clearly emerged. Bilateral relations with individual West European countries continued to be of importance. These links embrace a wide and diffuse range of interests. Of considerable importance are the close ethnic, historical, economic and political ties.

Australia's membership of the Organisation for Economic Co-operation and Development (OECD) enables Australia to participate in consultation on a wide range of issues with countries experiencing similar social and economic circumstances.

Indian Ocean

Australia is concerned that the Indian Ocean should not become a major area of superpower competition, and it believes that there should be a balance in their capabilities in the region at the lowest practicable level. Discussions between the United States and the Soviet Union on mutual arms limitation in the Indian Ocean began in 1977. Australia has taken a close interest in these talks, which could enhance the security of the ANZUS partners and all countries in the Indian Ocean region. The potential value of the bilateral talks in this region was pointed out by the Australian delegation to the Meeting of Indian Ocean Littoral and Hinterland States in July 1979. Australia has participated actively in the UN consideration of proposals to implement the Declaration of the Indian Ocean as a Zone of Peace.

Canada

Australia also enjoys a very close relationship with Canada. Similarities of heritage and international outlook have led to extensive co-operation on a wide range of issues of mutual concern.

Caribbean and Latin America

Developments in the Caribbean and Latin America are of increasing importance to Australia, and resident missions have been established in Jamaica, Mexico, Chile, Argentina, Brazil, Peru and, most recently, Venezuela.

Other countries

Australia recognises the need to develop relations with other parts of the world and has in recent years increased its diplomatic representation in the Middle East, Africa, and Eastern Europe. Development of relations in these regions reflects several common interests, including the role of middle powers and resources policies.

North South relations

Australia seeks to play a constructive role in the dialogue between developed and developing countries. Proposals cover a range of possible initiatives designed to help more rapid growth in developing countries and a greater harmony of interests in an increasingly interdependent world. Australia shares common economic interests with both developed and developing groups of countries and strongly supports the strengthening and extension of an open world trading system.

United Nations

Australia helped to draft the United Nations Charter in 1945, and has been a consistent supporter of the United Nations principles and objectives since its foundation. Besides participating each year in the General Assembly, Australia has served on the Security Council and on other United Nations bodies (*see* Year Book Australia No. 62, page 90).

Australia has supported self-determination and decolonisation and is a member of the Special Committee on Decolonisation (the Committee of 24) and of the Council for Namibia.

Australia also supports the work of the UN specialised agencies and subsidiary bodies in such fields as development assistance, drug control and human rights. It is a member of the UN Commissions on Human Rights and Narcotic Drugs, and on the Executive Board of the UN Children's Fund.

Australia has been involved in almost all United Nations peacekeeping activities since these began (*see* Year Book Australia No. 62, page 90). Australia has contributed its assessed share of the costs of all United Nations operations and also makes voluntary contributions as well as providing men and equipment.

The Commonwealth

The Commonwealth is a distinctive and unique framework bringing together about a quarter of the world's population. Australia participates in Commonwealth activities and was host to the first regional heads of government meeting, in Sydney in February 1978. Australia will host the Commonwealth Heads of Government Meeting in 1981.

Nuclear issues

Australia's policy is based on strong support of the Nuclear Non-Proliferation Treaty (NPT), which Australia ratified in 1973.

On 24 May 1977, the Prime Minister announced Australia's nuclear safeguards policy to cover exports of Australian uranium under new contracts. The policy includes requirements for International Atomic Energy Agency safeguards on Australian origin nuclear material, the conclusion of bilateral nuclear safeguards agreements with customer countries, and support for constructive international non-proliferation initiatives. Nuclear safeguards agreements incorporating all the requirements of the Government's policy have been signed with Finland, the Philippines, the Republic of Korea, the United States and the United Kingdom. Negotiations are continuing with other countries.

Australia is participating in the International Nuclear Fuel Cycle Evaluation (due to conclude in February 1980) to examine ways in which nuclear energy can help to meet world energy needs consistent with nuclear non-proliferation objectives. Australia is a member of the Board of Governors of the International Atomic Energy Agency and also a member of the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development.

Australia encourages universal adherence to the NPT and is actively engaged in preparations for the second NPT Review Conference which is to take place in August/September 1980.

Disarmament and Arms Control

For a number of years Australia has been active in promoting nuclear arms control and disarmament objectives in the United Nations, and, since January 1979, as a member of the Committee on Disarmament in Geneva. Australia attaches particular priority to the earliest possible conclusion of a treaty banning all nuclear testing in all environments. Australia is also active on a number of non-nuclear disarmament questions. A promising start to serious consideration of a possible chemical weapons convention has been made in the Committee on Disarmament. Australia co-sponsored a number of resolutions at the UN Conference on limiting certain conventional weapons held in Geneva in September 1979.

Australia has acceded to the following disarmament and arms control agreements: The Partial Test Ban Treaty, the Geneva Protocol (on Asphyxiating, Poisonous or Other Cases), the Outer Space Treaty, the Seabed Arms Control Treaty, the Nuclear Non-Proliferation Treaty, the Biological Weapons Convention, and the Environmental Modification Ban.

Law of the Sea

Australia is participating in the Law of the Sea Conference, the largest and potentially most important conference in the history of the United Nations, involving major strategic, economic, transport, scientific and environmental issues. Such issues, including freedom of navigation and rights of passage through straits and archipelagoes, are essential for the trade and commerce of a country like Australia. The Conference will also make decisions on matters relating to the extent of Australian sovereignty over offshore mineral resources and its control of offshore fisheries.

Antarctica

Australia, with a long record of Antarctic activity and as the sovereign power in the Australian Antarctic Territory, has a special interest in the development of Antarctic resources regimes that fully reflect its strong conservation concerns. In March 1978 Australia hosted in Canberra the first session of a diplomatic conference to draft a convention for the conservation of Antarctic marine living resources.

Consular activities

Australia has obligations under international convention and practice to provide consular assistance to Australians overseas. More than one million Australians a year travel abroad, and the Department issued 406,000 new passports in 1978.

The increasing number of Australians in difficulties overseas include growing numbers accused of drug offences.

Cultural Relations

The Department administers a program of cultural relations overseas in furtherance of the Government's foreign policy objectives. The program includes exchanges in the performing and visual arts, sport, film and literature as well as academic exchanges. In carrying out this program the Department co-operates and consults with Australian cultural organisations which are active in the field of international cultural exchange.

Treaties

The text of bilateral and multilateral treaties to which Australia becomes a party are printed in the Australian Treaty Series when they enter into practice. Details of treaties are recorded in the Australian Treaties Series 1971. Australia's current position with regard to treaties may be ascertained by using the 1971 list in conjunction with the Cumulative Supplement No. 3 and annual lists of Treaty Actions for 1974, 1975, 1976, 1977 and 1978. These publications are available from the Australian Government Publishing Service.

Australia's official development assistance to developing countries

Since 1945, Australia has spent over $4,256 million on aid. In the last decade, official development assistance has more than trebled from $151 million in 1968–69 to $460 million in 1978–79. For 1979–80 it is expected to reach $485 million. This represents an expenditure of about $33 per head of population in Australia.

Australia's aid to developing countries was 0.45 per cent of GNP in 1978–79.

The table below shows Australia's official development assistance during the years 1976–77 to 1978–79.

AUSTRALIA'S OFFICIAL DEVELOPMENT ASSISTANCE TO DEVELOPING COUNTRIES

($'000)

Scheme	*1976–77*	*1977–78*	*1978–79*
BILATERAL AID—			
AID TO PAPUA NEW GUINEA—			
Budgetary Support and Development Grant	190,000	200,000	215,000
Training	1,606	1,623	1,784
Other	34,771	17,818	20,412
Total Bilateral Aid to Papa New Guinea	*226,377*	*219,441*	*237,196*

AUSTRALIA'S OFFICIAL DEVELOPMENT ASSISTANCE TO DEVELOPING COUNTRIES—*continued*

($'000)

Scheme	*1976–77*	*1977–78*	*1978–79*
BILATERAL AID—*continued*			
REST OF THE WORLD—			
Bilateral Projects and Technical Assistance	52,115	71,005	91,737
Food Aid	24,743	28,192	35,939
Education and Training	13,473	16,625	15,510
Disaster, Emergency and Refugee Relief	1,094	544	498
Assistance to Non-Government Organisations	650	1,926	2,044
Development Import Grants	–	–	5,199
Association of South East Asian Nations—Economic Co-operation	–	1,452	2,894
Other	100	100	549
Total Bilateral Aid to the Rest of the World	*92,175*	*119,844*	*154,370*
Total bilateral aid	**318,552**	**339,285**	**391,566**
MULTILATERAL AID—			
FINANCIAL INSTITUTIONS—			
International Development Association	21,040	22,236	15,584
Asian Development Bank—			
Capital subscriptions	5,601	20,308	5,390
Special funds	8,018	4,347	5,334
International Bank for Reconstruction and Development	4,604	622	2,048
Total Financial Institutions	*39,263*	*47,513*	*28,356*
CONTRIBUTIONS TO UN AGENCIES AND FUNDS—			
United Nations Development Programs	3,592	5,510	6,820
World Food Program	3,194	7,200	12,136
United Nations International Children's Emergency Fund	1,100	1,500	1,800
United Nations High Commissioner for Refugees	420	2,926	6,081
Food and Agricultural Organisation: International Fertilizer Supply Scheme	500	–	–
United Nations Relief and Works Agency	340	381	413
United Nations Environment Fund	459	441	442
United Nations Fund for Population Activities	390	578	700
United Nations Fund for Drug Abuse Control	91	88	100
International Atomic Energy Agency: Technical Assistance	78	108	127
World Meteorological Organisation: World Weather Watch	18	19	20
United Nations Educational, Scientific and Cultural Organisation Fund for Restoration of Borobodur	40	40	-
United Nations Institute for Training and Research	29	32	34
United Nations Educational and Training Programs for Southern Africa	20	30	30
United Nations Fund for Namibia	25	25	25
United Nations Disaster Relief Office	–	94	100
United Nations Trust Fund for South Africa	15	20	20
Total Contributions to UN Agencies and Funds	*10,311*	*18,992*	*28,848*
CONTRIBUTIONS TO REGULAR BUDGETS OF MULTILATERAL AGENCIES PARTLY ACTIVE IN DEVELOPMENT (*a*)—			
World Health Organization	853	1,052	1,120
United Nations Organisation	290	345	404
United Nations Educational, Scientific and Cultural Organisation	170	232	237
Food and Agriculture Organisation	117	139	159
International Labour Organisation	100	105	150
General Agreement on Tariffs and Trade	61	71	84
United Nations Forces in Congo, Middle East, Cyprus and Lebanon	98	142	204
World Meteorological Organisation	7	6	6
Total Contributions to Regular Budgets, etc.	*1,696*	*2,092*	*2,364*
CONTRIBUTIONS TO OTHER AGENCIES—			
South Pacific Commission	858	950	1,119
International Agricultural Research Centres	2,012	2,688	2,759
Commonwealth Fund for Technical Co-operation	830	1,200	1,200
International Monetary Fund—Oil Facility Interest Subsidy Account	1,142	2,501	1,285
Economic and Social Commission for Asia and the Pacific	499	685	478

AUSTRALIA'S OFFICIAL DEVELOPMENT ASSISTANCE TO DEVELOPING COUNTRIES—*continued*

($'000)

Scheme	*1976–77*	*1977–78*	*1978–79*
MULTILATERAL AID—*continued*			
CONTRIBUTIONS TO OTHER AGENCIES—*continued*			
South Pacific Regional Programs	98	975	989
South Pacific Bureau of Economic Co-operation	108	162	190
South Pacific Air Transport Council	127	–	–
International Fund for Agricultural Development	–	784	–
Commonwealth Youth Program	60	60	120
Commonwealth Zimbabwe Scholarship	50	50	50
Regional Training and Research	–	–	491
Indo-Pacific Fisheries Council	57	62	65
Other regional and international programs	2,631	498	586
Total Contributions to Other Agencies	8,472	10,615	9,332
Total multilateral aid	**59,742**	**79,212**	**68,900**
Total official development assistance	**378,294**	**418,497**	**460,466**

(*a*) The development content is calculated by applying to the contribution of each agency the percentages set out in the Development Assistance Committee Statistical Reporting Directives.

Over half of Australia's aid goes to Papua New Guinea. The remainder is channelled through multilateral programs (e.g. the UN agencies and the Asian Development Bank) and through Australia's bilateral programs. The following table sets out the countries which receive bilateral aid from Australia in excess of $500,000 in either 1976–77, 1977–78 or 1978–79.

AUSTRALIA'S BILATERAL AID BY GEOGRAPHICAL REGION AND COUNTRY

($'000)

Country	*1976–77*	*1977–78*	*1978–79*
ASIA–			
Afghanistan	497	914	247
Bangladesh	9,088	11,732	20,296
Burma	2,314	3,387	8,045
India	7,299	2,388	3,852
Indonesia	22,525	28,274	36,000
Korea, Republic of	717	460	350
Laos	1,369	1,546	797
Malaysia	3,551	5,902	4,865
Nepal	512	703	1,026
Pakistan	4,258	3,250	4,719
Philippines	6,073	6,452	6,493
Singapore	1,067	922	703
Sri Lanka	2,306	4,658	4,368
Thailand	6,069	9,723	10,220
Vietnam	2,522	4,394	1,947
Other	1,678	3,399	7,791
Total Asia	*71,845*	*88,104*	*111,719*
OCEANIA–			
Fiji	4,292	6,199	8,188
Gilbert Islands	260	1,479	2,501
New Hebrides	659	814	1,446
Papua New Guinea	226,377	219,441	237,196
Solomon Islands	1,555	1,710	3,162
Tonga	1,068	2,103	3,833
Tuvalu	35	359	934
Western Samoa	3,976	3,801	4,634
Other	727	1,666	2,750
Total Oceania	*238,949*	*237,572*	*264,644*
AFRICA–			
Egypt	12	2,327	2,815
Ethiopia	743	82	1,827
Ghana	829	1,485	791
Kenya	1,404	1,516	1,890
Mauritius	638	628	781
Mozambique	991	2	334
Sahelian Zone	–	1,467	–
Sudan	35	619	1,156
Tanzania	1,437	2,322	1,938
Other	1,133	2,211	2,372
Total Africa	*7,222*	*12,659*	*13,904*
EUROPE–			
Total	*168*	*40*	*129*
AMERICA–			
Total	*222*	*368*	*437*
UNSPECIFIED–			
Total	*146*	*542*	*733*
Total bilateral aid	**318,552**	**339,285**	**391,566**

Bilateral aid is channelled through a number of programs through which Australia assists with various developmental projects including the provision of experts and equipment, balance of payments support and training of students.

The following table sets out the number of students who have been trained in Australia under the aid programs.

PERSONS FROM LESS-DEVELOPED COUNTRIES FINANCED BY AND TRAINED IN AUSTRALIA

(Number)

Scheme	*Cumulative total to 30 June 1979*	*Total in training at 30 June 1979*	*Number of new awards 1978-79*
Association of South East Asian Nations	36	10	9
Australian/Asian University Co-operation Scheme	145	40	15
Australian International Awards Scheme(*a*)	323	44	31
Australia Papua New Guinea Education and Training Scheme(*b*)	3,554	84	314
Colombo Plan	18,456	970	715
Commonwealth Co-operation in Education Scheme	2,095	118	67
Special Commonwealth African Assistance Plan	1,951	170	159
South East Asia Treaty Organisation	86	–	–
South Pacific Aid Program	1,201	103	156
South East Asian Ministers of Education Organisation	18	9	7
Total	**27,865**	**1,548**	**1,473**

(*a*) Includes South-East Asian Scholarship Scheme. (*b*) Includes persons trained at International Training Institute (formerly Australian School of Pacific Administration) and also the Commonwealth Practical Training Scheme.

Diplomatic representation overseas

The Department of Foreign Affairs is responsible for advising the Minister for Foreign Affairs and the Australian Government on the conduct of foreign affairs and relations with foreign governments. Its officers staff the Australian diplomatic service and the consular and administrative service.

As at 1 September 1979, Australia maintained the following diplomatic and consular missions overseas. Full details of these missions are available from the Department of Foreign Affairs, Canberra, A.C.T. 2600.

NOTE. In certain cases the Head of Mission accredited to one country is also accredited to another country. Where this is the case the name of the country in which the Head of Mission is located is shown in brackets. Except where indicated the missions are located in capital cities.

Australian missions overseas

Embassies

Afghanistan (in Pakistan); Algeria; Argentina; Austria; Belgium; Bolivia (in Chile); Brazil; Bulgaria (in Yugoslavia); Burma; Chile; China; Colombia (in Peru); Costa Rica (in Mexico); Czechoslovakia (in Poland); Denmark; Egypt; Ecuador (in Peru); Ethiopia (in Kenya); Finland (in Sweden); France; German Democratic Republic; Germany, Federal Republic of; Greece; Guatemala (in Mexico); Holy See (in Sweden); Hungary (in Austria); Indonesia; Iran; Iraq; Ireland; Israel; Italy; Ivory Coast (in Ghana); Japan; Jordan; Republic of Korea; Democratic People's Republic of Korea (in China); Kuwait; Laos; Lebanon; Libya; Luxembourg (in Belgium); Malagasy Republic (in Tanzania); Maldives (in Sri Lanka); Mexico; Mongolia (in U.S.S.R.); Morocco (in France); Nepal (in India); Netherlands; Norway (in Sweden); Pakistan; Panama (in Mexico); Paraguay (in Argentina); Peru; Philippines; Poland; Portugal; Romania (in Yugoslavia); Saudi Arabia; Senegal (in Ghana); South Africa; Spain; Sudan (in Egypt); Sweden; Switzerland; Syria; Thailand; Tunisia (in Algeria); Turkey; Union of Soviet Socialist Republics; United Arab Emirates (in Saudi Arabia); United States of America; Uruguay (in Argentina); Venezuela (in Peru); Vietnam; Yugoslavia.

High Commissions

Bangladesh; Bahamas (in Jamaica); Barbados (in Jamaica); Botswana (in South Africa); Britain; Canada; Cyprus; Fiji; Ghana; Grenada (in Jamaica); Guyana (in Jamaica); India; Jamaica; Kenya; Kiribati (in Nauru); Lesotho (in South Africa); Malaysia; Malta; Mauritius (in Tanzania); Nauru; New Zealand; Nigeria; Papua New Guinea; Seychelles (in Kenya); Singapore; Solomon Islands; Sri Lanka; Swaziland (in South Africa); Tanzania; Tonga (in Fiji); Trinidad and Tobago (in Jamaica); Tuvalu (in Fiji); Uganda (in Kenya); Western Samoa; Zambia (in Tanzania).

Commissions

Hong Kong.

Other

Mission to—European Communities (Brussels); United Nations (New York); United Nations (Geneva); United Nations Educational, Scientific and Cultural Organisation (Paris); Organisation for Economic Co-operation and Development (Paris); United Nations Industrial Development Organisation (Vienna); Australian Delegation to Multilateral Trade Negotiations (Geneva).

Consulate-General in—New York, Chicago, San Francisco, Los Angeles and Honolulu; Osaka; Manchester; Auckland; Lae; Milan; Toronto and Vancouver; Rio de Janeiro; Bombay; Bahrain; and Abu Dhabi.

Consulate in—Edinburgh; Geneva; Messina; Noumea; Vila and Capetown.

Specialist officers of the Department of Trade and Resources (formerly the Department of Overseas Trade), other Australian Government Departments and the Defence Services stationed abroad are attached to Australian diplomatic or consular missions. Senior attached officers are in some cases accredited to the missions with diplomatic or consular ranks approved by the Minister for Foreign Affairs.

In addition, the Department of Trade and Resources maintains Trade Commissioner posts which engage in trade promotion in a number of cities where Australia does not have diplomatic or consular representation (*see* Chapter 24, Overseas Transactions). The Department of Immigration and Ethnic Affairs similarly maintains offices overseas which engage in the selection of migrants and other functions appropriate to that Department.

Agents-General for States

From early times the Australian colonies maintained agents in London to encourage immigration and to carry out commercial and financial negotiations. Since Federation the States have continued to maintain Agents-General in London, all of whom work in close co-operation with the High Commissioner for Australia at Australia House, London. Some of the States also maintain other offices overseas.

Diplomatic representation to Australia

The following list shows the diplomatic missions to Australia. Full details of Commonwealth and foreign representation in Australia are available from the Department of Foreign Affairs, Canberra, A.C.T. 2600. Consular representatives are not included; particulars of these are also available from the Department of Foreign Affairs. There are about 400 such representatives in Australia, representing about seventy countries.

Embassies

Afghanistan (in Japan); Argentina; Austria; Belgium; Bolivia (in Malaysia); Brazil; Bulgaria (in Indonesia); Burma; Chile; China; Czechoslovakia (in Indonesia); Denmark; Egypt; Finland; France; German Democratic Republic; Germany, Federal Republic of; Greece; Guatemala (in Japan); Holy See; Hungary; Indonesia; Iran; Iraq; Ireland; Israel; Italy; Japan; Jordan; Republic of Korea; Kuwait (in Japan); Laos; Lebanon; Libya; Mexico; Mongolia (in Japan); Nepal (in Japan); Netherlands; Norway; Pakistan; Peru; Philippines; Poland; Portugal; Romania; Senegal (in India); South Africa; Spain; Sweden; Switzerland; Thailand; Turkey; Union of Soviet Socialist Republics; United States of America; Uruguay; Venezuela; Vietnam; Yugoslavia.

High Commissions

Bangladesh; Britain; Canada; Cyprus; Fiji; Ghana; India; Malaysia; Malta; Mauritius; New Zealand; Nigeria; Papua New Guinea; Singapore; Solomon Islands (in Solomon Islands); Sri Lanka.

CHAPTER 6

DEMOGRAPHY

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DEMOGRAPHY

This chapter deals with the size, growth, geographic location and characteristics of the population and with components of population change, namely births, deaths, marriage, divorce and migration.

The sources of the statistics in this chapter are population censuses, population surveys, State and Territorial registers of births, deaths and marriages, records of courts dealing with divorce, and other administrative records such as passenger cards required from international travellers and records of electoral roll and family allowance transfers.

With the proclamation of the *Constitution Alteration* (*Aboriginals*) *Act* 1967 on 10 August 1967, the provision in section 127 of the Constitution requiring the exclusion of Aboriginals in reckoning the numbers of the people of the Commonwealth or of a State or other part of the Commonwealth was repealed. Accordingly, population and vital statistics for all dates subsequent to 10 August 1967 no longer exclude full-blood Aboriginals. Also, estimates for periods back to 30 June 1961 have been revised to include Aboriginals.

A list of publications of the Australian Bureau of Statistics which contain detailed population statistics is given at the end of this chapter.

THE POPULATION

The population census

Basic enumerations of the population have been made since the early days of settlement in Australia. The early enumerations were known as 'musters'. A census conducted in New South Wales in 1828 became the first in a series of regular censuses in that colony. Periodic censuses were taken in the other Australian colonies. The first simultaneous censuses of all the Australian colonies was taken in 1881. The first national census was taken in 1911. It was followed by others in 1921, 1933, 1947, 1954, 1961 and at five yearly intervals thereafter. A special article on early censuses appears in Year Book No. 15 of 1922. A special article outlining the history, purposes, legal basis, organisation and publication of results of population censuses appears in Year Book No. 53 of 1967, pages 164–170.

Every census from 1881 has inquired into age, sex, marital status, birthplace, nationality or citizenship and occupation. A wide variety of other topics has been included from time to time.

The most recent census in Australia was conducted on 30 June 1976. In addition to the basic demographic topics mentioned above, questions were asked on income (included for the first time since 1933); the effects of handicaps; child care arrangements; and mortgage repayments. This Year Book contains data on characteristics of the population based on preliminary processing of all schedules. The data from the 1976 Census on internal migration comes from the main processing stage, based on a sample of the schedules. The sample included all the schedules from the Northern Territory and from non-private dwellings (e.g. hotels, hospitals, jails), together with 50 per cent of the remaining householders' schedules.

The population census in Australia is de facto, i.e. persons are enumerated where they spend census night even though that may not be where they usually live. Visitors to Australia are enumerated if they are in Australia on census night, regardless of the duration of their stay. Foreign diplomatic personnel and their families resident in Australia, and Australians out of the country are excluded.

Despite elaborate arrangements aimed at obtaining complete coverage, it is not possible to ensure that a census schedule is returned for every individual. Some error inevitably remains for various reasons (e.g. inadvertent omission of very young children, missed dwellings or occupied dwellings mistakenly taken as unoccupied). Since 1966, sample surveys have been taken soon after each census to discover the approximate extent of under-enumeration and the effects on the census results of mis-statement or non-reply to specific questions. From these studies it appears that under-enumeration has increased over the most recent censuses. Under-enumeration of the population of Australia at the 1976 census is estimated to have been 2.7 per cent. Estimated under-enumeration of State populations is shown in *Population of States and Territories Adjusted for Under-Enumeration as shown by Post-Enumeration Survey* (2409.0). Under-enumeration varies from location to location and for populations of different ages and other characteristics. These and similar problems are common to all population censuses and, although under-enumeration has increased in Australia since the 1971 census, it is of a similar order to that experienced by comparable countries.

Population estimates

The census enumeration, adjusted for under-enumeration, forms the basis for quarterly estimates of the population prepared by sex and State. These are calculated by updating for subsequent births and deaths and for overseas and interstate migration. Age estimates are prepared annually for each State and Territory. Small area estimates are also made annually.

From 1976, and retrospectively to June 1971, the overseas migration component is defined as the excess of arrivals over departures of permanent and long-term movements. Long-term includes visits to or absences from Australia lasting one year or longer. Previously, all overseas movement was included. Since 1961, interstate movement which enters the calculation of population estimates for the States and Territories has excluded holiday, business or other short term movements. Thus, quarterly changes due to short term overseas movement are reflected in Australian and State population figures prior to 1971 but not thereafter, and quarterly movements due to interstate travel are reflected in population figures prior to 1961 but not thereafter.

Estimates of the population as at 30 June 1971 and 30 June 1976 are based on the population as counted at the time of those censuses with an adjustment for under-enumeration. The estimate of the population as at 30 June 1971 is 12,937.2 thousand compared with the counted population of 12,755.6 thousand. The estimate of the population as at 30 June 1976 is 13,915.5 thousand compared with the counted population of 13,548.5 thousand. The preliminary estimate of the population as at 30 June 1979 is 14,417.2 thousand. While adjustments have been made to the estimates of the age and sex of the population of each State and of the population of each local government area, it is not possible to adjust all the statistical material derived from the census.

The quarterly estimates from June 1971 to June 1976 have also been revised to take into account the 1976 census and to allow for under-enumeration at that and the preceding census.

Mean populations, by sex, are calculated for calendar and financial years to the formula—

$$\text{Mean population} = \frac{a + 4b + 2c + 4d + e}{12}$$

where *a* is the population at the end of the quarter immediately preceding the twelve month period, and *b*, *c*, *d* and *e* are the populations at the end of each of the four succeeding quarters. Mean populations are used in the calculation of crude rates.

Size and growth of Australia's population

When Europeans first settled in Australia, the Aboriginal population is believed to have been at least 300,000. The Aboriginal population suffered a drastic decline in numbers over the next 145 years so that by 1933 it is estimated to have totalled about 67,000. It has since risen (to about 161,000 in 1976).

The population of Australia reached 1 million in 1858, 5 million in 1918 and 14 million early in 1977.

From 1861 natural increase has been the major element in population growth, and immigration the most variable. In the years 1861 to 1890, total growth on average exceeded 3 per cent a year and natural increase 2 per cent. The rate of natural increase declined during the last decade of the nineteenth century and the first decade of the twentieth century, and this, together with a near cessation of immigration during that period, reduced the rate of growth from 3.70 per cent in 1861–70 to 1.63 per cent in 1901–10.

The 1914–18 war was the dominating influence in the decade 1911–1920: during the war and immediate post-war years the birth rate rose and immigration was resumed. In the economic depression of the 1930s, however, natural increase fell to its lowest level ever and immigration ceased; indeed, in some years, overseas departures exceeded arrivals.

With the outbreak of the 1939–45 war, Australia entered a new phase. The immediate effect of the war was to increase the number of marriages and births. The increasing births more than offset the rise in deaths due to war casualties and higher civilian death rates. Migration in these years was negligible.

The period 1947 to 1961 was marked by a continued high natural increase and a resumption of immigration, the latter resulting in very high net gains in each of the four years 1949 to 1952.

Between 1961 and 1970, net migration continued at about the same level as in the previous decade, but there were declines in the crude birth rate and the rate of natural increase. The years since 1971 have been characterised by a reduced rate of natural increase due to a decline in the birth rate and lower levels of net migration; together, these have resulted in the lowest rate of population growth for 30 years 1.02 per cent in 1975 and 1976. In 1978, the rate of growth was 1.18 per cent, of which 0.82 per cent was due to natural increase and 0.36 per cent to net migration. The estimates in the following table relate to the end of December. Estimates for the end of June are given in other tables.

POPULATION AND COMPONENTS OF GROWTH

Period	Population at end of period ('000) (a)	*Average annual rate of growth (b) (per cent)* Natural increase	Net migration (c)	Total
1851–1860	1,145.6			
1861–1870	1,647.8	2.47	1.23	3.70
1871–1880	2,231.5	2.07	1.01	3.08
1881–1890	3,151.4	2.05	1.46	3.51
1891–1900	3,765.3	1.73	0.07	1.80
1901–1910	4,425.1	1.53	0.10	1.63
1911–1920	5,411.3	1.60	0.43	2.03
1921–1930	6,500.8	1.32	0.53	1.85
1931–1940	7,077.6	0.79	0.05	0.85
1941–1950	8,307.5	1.13	0.47	1.61
1951–1955	9,311.8	1.38	0.95	2.31
1956–1960	10,391.9	1.40	0.83	2.22
1961–1965	11,505.4	1.27	0.74	1.98
1966–1970	12,663.5	1.11	0.91	1.94
1971–1975	(*d*) 13,849.3	1.08	0.49	1.59
1971	(*d*) 13,070.0	1.29	0.81	2.11
1972	(*d*) 13,283.9	1.19	0.43	1.64
1973	(*d*) 13,490.6	1.03	0.51	1.56
1974	(*d*) 13,709.5	0.96	0.65	1.62
1975	(*d*) 13,849.3	0.90	0.10	1.02
1976	(*d*) 13,991.2	0.83	0.18	1.02
1977	(*d*) 14,163.5	0.84	0.39	1.23
1978	(*d*) 14,330.9	0.82	0.36	1.18

(*a*) Excludes full-blood Aboriginals prior to 1961. (*b*) The average annual rates of population growth for periods greater than one year are calculated on the compound interest principle. The rates refer to the population at the beginning of the period. Discrepancies between the sum of the rate of growth due to natural increase and net migration and the rate of total growth are due to intercensal adjustment. (*c*) From 30 June 1971, net migration is defined as the excess of overseas arrivals over overseas departures classified as permanent and long term movement. (Long term includes visits to and absences from Australia lasting one year or longer.) From 30 June 1933 to 30 June 1971, net migration represents the excess of all arrivals over all departures. Prior to 30 June 1933, net migration includes discrepancies disclosed by the various censuses, which were corrected by adjusting recorded overseas departures. (*d*) These population estimates and rates of growth incorporate revisions resulting from an examination of evidence of under-enumeration in the 1976 and 1971 censuses. The estimated population at 31 December 1970 used to compute rates of growth thereafter was 12,799,600.

Projections of the population

Projections of Australia's population are made using the component method in which a base population is brought forward year by year by applying assumptions about future trends of fertility, mortality and the characteristics of overseas migration.

The projections given here cover the years to 2011 and are based on provisional estimates of the population for 1978. The assumptions used in the projections are as follows:

Fertility. Rates were chosen on the assumptions that first births will stabilise by about 1981 at a level somewhat lower than that experienced by recent generations of women; that the proportion of women with one child who will have a second child will remain more or less the same; and that the falling off in fertility rates among women who have 3 or more children will continue until 1984. The overall effect will be a further small decline of fertility followed by a rise to replacement level in 1984. Constant rates are assumed thereafter.

Mortality. It is assumed that the 1975–76 age specific mortality rates will apply for the duration of the projections except that infant mortality is assumed to continue to decline. It was assumed that the annual rate of improvement would decline by about one per cent per annum bringing the infant mortality rate to 7.7 for males and 6.0 for females in 2011.

Migration. Net immigration has been projected at an illustrative level of 50,000 persons per year. The age-sex composition is based on the pattern of permanent arrivals and departures in the 5 years 1972 to 1977.

According to these projections, the population will number 17.4 million in 2011 without further immigration and 19.6 million with net immigration at 50,000 persons a year, immigration having contributed 2.2 million to the growth of the population.

PROJECTED POPULATION OF AUSTRALIA: 1978 TO 2011

30 June—	*Excluding migration after 30 June 1978*	*Resulting from net immigration at the illustrative level of 50,000 persons a year after 30 June 1978*	*Including net immigration at the illustrative level of 50,000 persons a year after 30 June 1978*
	'000	'000	'000
1978p	14,259.0	. .	14,259.0
1979	14,359.9	50.6	14,410.5
1980	14,460.8	102.4	14,563.1
1981	14,564.9	155.4	14,720.3
1986	15,154.7	440.9	15,595.6
1991	15,734.6	753.2	16,487.8
1996	16,262.4	1,085.0	17,347.4
2001	16,705.2	1,436.0	18,141.3
2006	17,058.1	1,809.2	18,867.3
2011	17,375.4	2,205.3	19,580.7

The average annual rate of growth will rise from 0.7 per cent to 0.8 per cent and will then decline to 0.4 per cent, if there is no further immigration. The birthrate on the assumptions used will rise from 15 per thousand to 17 per thousand and will then decline to 14 per thousand. The crude death rate will rise from 8 per thousand to 11 per thousand.

With immigration at 50,000 persons a year, the average annual rate of growth will fall from 1.1 per cent to 0.7 per cent. The crude birthrate will rise from 15 per thousand to 17 per thousand and will then fall to 15 per thousand. The death rate will rise from 8 per thousand to 10 per thousand.

PROJECTED AVERAGE ANNUAL RATES OF GROWTH (*a*), AUSTRALIA 1978 TO 2011

(per cent)

	Excluding migration after 30 June 1978			*Including net immigration at the illustrative level of 50,000 persons a year after 30 June 1978*				
	Births	*Deaths*	*Rate of growth*	*Births*	*Deaths*	*Natural increase*	*Net immigration*	*Rate of growth*
1978–81	1.55	0.84	0.71	1.56	0.84	0.72	0.35	1.07
1981–86	1.68	0.88	0.80	1.70	0.87	0.83	0.33	1.16
1986–91	1.67	0.92	0.75	1.70	0.90	0.80	0.31	1.12
1991–96	1.62	0.96	0.66	1.65	0.92	0.72	0.30	1.02
1996–2001	1.53	0.99	0.54	1.56	0.95	0.61	0.28	0.90
2001–06	1.44	1.02	0.42	1.49	0.97	0.51	0.27	0.79
2006–11	1.42	1.06	0.37	1.48	1.00	0.48	0.26	0.74

(*a*) Calculated using the compound interest principle. The rates are split between the components of natural increase and net migration according to the relative size of each component.

The proportion of juveniles aged under 15 will fall from 26 per cent to 21 per cent without immigration or 22 per cent with immigration. The proportion of elderly aged 65 and over will rise from 9 per cent to 12 per cent without immigration or 11 per cent with immigration. The proportion of the population aged 15 to 64 will increase from 65 per cent to 67 per cent whether or not there is any further immigration.

PROJECTED AGE DISTRIBUTION AND MEDIAN AGE

	Excluding migration after 30 June 1978				*Including net immigration at illustrative level of 50,000 persons a year*			
	Age distribution (per cent)				*Age distribution (per cent)*			
30 June	*0–14*	*15–64*	*65 & over*	*Median age (years)*	*0–14*	*15–64*	*65 & over*	*Median age (years)*
1978	26.2	64.6	9.2	28.9	26.2	64.6	9.2	28.9
1981	25.0	65.4	9.7	29.8	25.0	65.4	9.6	29.7
1986	23.6	66.3	10.2	30.9	23.9	66.2	10.0	30.6
1991	22.9	66.3	10.8	32.0	23.4	66.2	10.5	31.6
1996	23.2	65.7	11.1	33.1	23.7	65.7	10.6	32.6
2001	22.7	66.3	11.0	34.1	23.2	66.4	10.4	33.3
2006	21.8	67.0	11.2	35.1	22.4	67.1	10.5	34.3
2011	21.1	67.1	11.9	36.0	21.8	67.3	11.0	34.8

Location of the population

For historical, climatic and economic reasons the population of Australia is concentrated in capital cities and other major towns, mainly on the south and east coasts of the continent. In June 1978, 69.79 per cent of the population lived in the national capital, the six State capital cities and five other major towns of 100,000 or more persons (metropolitan statistical divisions and statistical districts). Of these, only Canberra is located inland. The percentage of the population living in rural areas has declined over the years as the major cities and towns have attracted most of the population growth; there have been periods when the rural population has actually declined in numbers. This trend, however, appears to have slowed considerably since 1971. The percentage of the population living in capital cities and major towns of over 100,000 is highest in New South Wales (75.6 per cent), followed by Victoria (74.8 per cent), South Australia (72.3 per cent), Western Australia (70.8 per cent), Queensland (51.8 per cent) and Tasmania (40.2 per cent).

POPULATION IN CAPITAL CITIES AND OTHER MAJOR TOWNS OF 100,000 PERSONS OR MORE
('000 persons)

	30 June 1976	*30 June 1977*	*30 June 1978*
Sydney (*a*)	3,094.8	3,121.8	3,155.2
Melbourne (*a*)	2,672.0	2,694.1	2,717.6
Brisbane (*a*)	985.9	995.1	1,004.5
Adelaide (*a*)	912.1	922.8	930.5
Perth (*a*)	820.1	843.8	864.9
Newcastle (*b*)	370.5	372.3	375.3
Canberra (*b*)	221.8	227.0	234.7
Wollongong(*b*)	218.9	220.3	222.0
Hobart(*a*)	162.7	164.5	166.5
Geelong(*b*)	135.6	137.9	139.8
Gold Coast (*c*)	122.1	r125.9	133.1
Total	**9,716.5**	**r9,825.5**	**9,944.1**
Percentage of total population	**69.83**	**r69.81**	**69.79**

(*a*) Statistical division (*b*) Statistical district. (*c*) Provisional estimate of statistical district.

While there has been a continuous growth in all States this century, there has been a noticeably higher rate of growth in Western Australia, the Australian Capital Territory and the Northern Territory. Tasmania and South Australia have had the least growth.

POPULATION OF STATES AND TERRITORIES
('000 persons)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.(a)*	*Aust.*
3 April 1881 . . .	749.8	861.6	213.5	276.4	29.7	115.7	3.5	..	2,250.2
5 April 1891 . . .	1,127.1	1,140.1	393.7	315.5	49.8	146.7	4.9	..	3,177.8
31 March 1901 . .	1,354.8	1,201.1	498.1	358.3	184.1	172.5	4.8	..	3,773.8
3 April 1911 . . .	1,646.7	1,315.6	605.8	408.6	282.1	191.2	3.3	1.7	4,455.0
4 April 1921 . . .	2,100.4	1,531.3	756.0	495.2	332.7	213.8	3.9	2.6	5,435.7
30 June 1933 . .	2,600.8	1,820.3	947.5	580.9	438.9	227.6	4.9	8.9	6,629.8
30 June 1947 . .	2,984.8	2,054.7	1,106.4	646.1	502.5	257.1	10.9	16.9	7,579.4
30 June 1954 . .	3,423.5	2,452.3	1,318.3	797.1	639.8	308.8	16.5	30.3	8,986.5
30 June 1961(*b*) .	3,918.5	2,930.4	1,527.5	971.5	746.8	350.3	44.5	58.8	10,548.3
30 June 1966 . .	4,237.9	3,220.2	1,674.3	1,095.0	848.1	371.4	56.5	96.0	11,599.5
30 June—									
1971	4,679.4	3,520.4	1,881.4	1,185.3	1,043.1	390.2	91.9	145.6	12,937.2
1972	4,746.9	3,577.4	1,932.5	1,202.4	1,070.9	392.2	96.6	158.0	13,177.0
1973	4,793.4	3,628.4	1,987.3	1,217.9	1,089.8	395.7	99.7	168.2	13,380.4
1974	4,839.4	3,676.8	2,046.1	1,236.2	1,117.4	399.3	104.4	179.6	13,599.1
1975	4,884.5	3,719.1	2,084.0	1,252.1	1,146.7	404.7	89.4	190.9	13,771.4
1976	4,914.3	3,746.0	2,111.7	1,261.6	1,169.8	407.4	101.4	203.3	13,915.5
1977	4,956.7	3,782.3	2,136.8	1,276.8	1,197.1	410.6	105.5	208.2	14,074.1
1978	5,011.8	3,818.4	2,166.7	1,287.6	1,222.3	413.7	112.5	215.6	14,248.6
1979	5,075.8	3,853.3	2,196.4	1,294.3	1,241.9	417.7	115.7	222.1	14,417.2
Percentage of total population in 1979	**35.21**	**26.73**	**15.23**	**8.98**	**8.61**	**2.90**	**0.80**	**1.54**	**100.00**

(*a*) Part of New South Wales before 1911. (*b*) Figures before 1961 exclude Aboriginals, later figures do not. The estimates from June 1971 for each State and Territory are made from the 1971 census results, with augmented adjustments for under-enumeration to make the total balance with the estimates for Australia made retrospectively from 1976.

General characteristics of the population

The age composition of the population is presented in Plate 29, page 99 in the form of a pyramid. The decrease in the number of births in the 1970s can be seen in the undercutting of the pyramid for ages six and under. The post-war 'baby boom' is shown in the bulge at age 32.

ESTIMATED AGE DISTRIBUTION: 30 JUNE 1978
('000)

Age Group (years)	*Males*	*Females*	*Persons*
0–4	597.1	566.8	1,163.9
5–9	677.1	646.8	1,323.8
10–14	635.9	599.7	1,235.6
15–19	662.6	629.2	1,291.9
20–24	604.8	591.7	1,196.5
25–29	585.9	577.5	1,163.4
30–34	563.8	536.2	1,100.1
35–39	449.9	425.0	874.9
40–44	399.2	378.5	777.7
45–49	391.9	366.9	758.8
50–54	396.7	379.3	776.0
55–59	342.4	346.7	689.1
60–64	279.8	302.9	582.7
65–69	227.3	262.2	489.6
70+	324.7	499.9	824.5
All ages	**7,139.1**	**7,109.4**	**14,248.6**

Although the numbers of men and women aged 15 and over are nearly equal, there are more single men than single women and there are more widows than widowers. The first phenomenon is attributable to women generally marrying about 2 years younger than men, and the second to their greater longevity. In 1976, 29 per cent of the male population aged 15 and over was single, 64 per cent married (excluding 2.2 per cent married but recorded as permanently separated), 2.7 per cent widowed and 2 per cent divorced. For females the figures were 21 per cent single, 62.5 per cent married (excluding 2.7 per cent married but permanently separated), 11 per cent widowed and 2.5 per cent divorced.

MARITAL STATUS OF THE POPULATION 1954 TO 1976

(Per cent distribution)

Census	*Never married*						
	Under 15	*15 and over*	*Married*	*Married but permanently separated*	*Widowed*	*Divorced*	*Total*
			MALES				
1954	28.9	21.2	45.4	1.3	2.5	0.7	100.0
1961	30.6	20.7	44.5	1.3	2.2	0.7	100.0
1966	29.9	21.4	44.5	1.3	2.1	0.7	100.0
1971	29.3	20.7	45.6	1.3	2.0	1.0	100.0
1976	28.0	21.0	46.1	1.6	1.9	1.4	100.0
			FEMALES				
1954	28.3	15.4	46.1	1.5	7.9	0.8	100.0
1961	29.8	14.8	45.1	1.5	7.9	0.8	100.0
1966	28.9	15.7	44.9	1.5	8.1	0.9	100.0
1971	28.2	14.9	46.1	1.5	8.2	1.1	100.0
1976	26.6	15.6	45.9	2.0	8.1	1.8	100.0

In 1976, people born overseas made up 20 per cent of the population, about the same as 1971 but an increase on earlier censuses. The proportion of males who were overseas-born has been higher than for females: in 1976, 21 per cent as compared with 19 per cent for females.

AUSTRALIAN AND OVERSEAS-BORN POPULATION

(per cent of total population)

Census	*Australian born*			*Overseas born*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
1954	83.9	85.6	85.7	16.1	14.4	14.3
1961	81.4	84.8	83.1	18.6	15.2	16.9
1966	80.2	82.9	81.6	19.8	17.0	18.4
1971	78.5	81.0	79.8	21.5	19.0	20.2
1976	78.9	80.8	79.8	21.1	19.2	20.2

The proportion of the population of working age (taken as 15 to 64) increased between 1971 and 1978, particularly among those aged 15–44 who, as a proportion of the total population, increased from 42.9 per cent to 45.0 per cent.

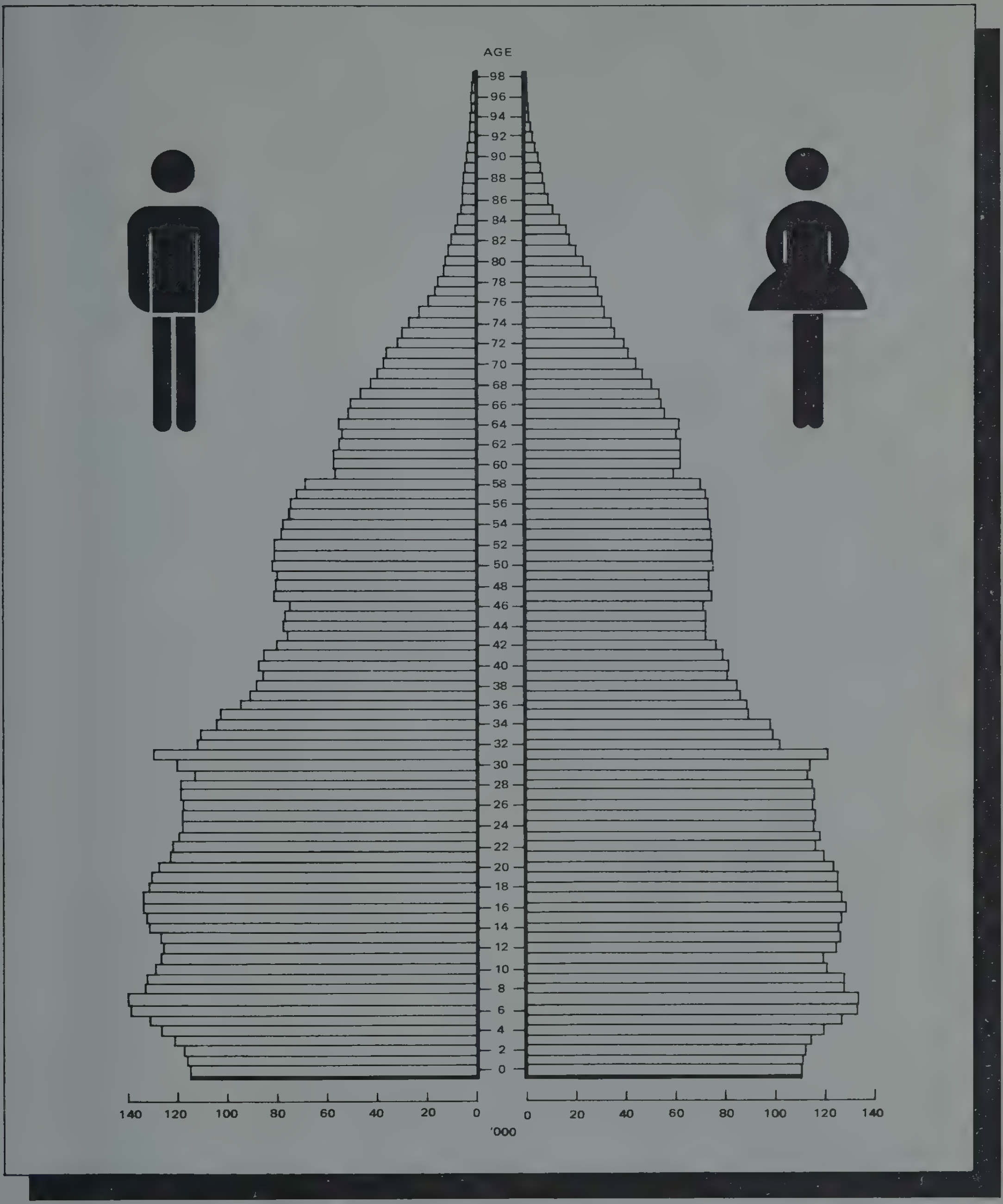
The number of persons in the population aged under 15 made up a reduced percentage of the total population: 26.1 per cent in 1978 as compared with 29.0 per cent in 1971. The numbers aged 65 and over, i.e. the age of retirement increased from 8.4 per cent to 9.2 per cent.

POPULATION IN AGE GROUPS: 1961 TO 1978

30 June	*Number ('000)*				*Per cent*			
	Under 15	*15–44*	*45–64*	*65 and over*	*Under 15*	*15–44*	*45–64*	*65 and over*
				MALES				
1961	1,626.2	2,244.2	1,057.8	384.2	30.6	42.2	19.9	7.2
1966	1,748.2	2,517.5	1,161.8	414.1	29.9	43.1	19.9	7.1
1971	1,920.9	2,844.7	1,284.1	456.5	29.5	43.7	19.7	7.0
1976	1,932.7	3,133.3	1,394.9	518.4	27.7	44.9	20.0	7.4
1977	1,920.2	3,199.1	1,401.5	534.6	27.2	45.3	19.9	7.6
1978	1,910.1	3,266.3	1,410.8	552.0	26.8	45.8	19.8	7.7
				FEMALES				
1961	1,550.8	2,102.7	1,032.3	510.1	29.8	40.5	19.9	9.8
1966	1,665.0	2,375.9	1,142.0	575.0	28.9	41.3	19.8	10.0
1971	1,827.6	2,701.3	1,272.8	629.3	28.4	42.0	19.8	9.8
1976	1,834.1	3,002.1	1,382.2	717.7	26.4	43.3	19.9	10.4
1977	1,822.9	3,069.3	1,387.9	738.6	26.0	43.7	19.8	10.5
1978	1,813.3	3,138.2	1,395.8	762.1	25.5	44.1	19.6	10.7
				PERSONS				
1961	3,177.0	4,346.9	2,090.0	894.2	30.2	41.4	19.9	8.5
1966	3,413.2	4,893.4	2,303.8	989.1	29.4	42.2	19.9	8.5
1971	3,748.5	5,546.0	2,556.9	1,085.9	29.0	42.9	19.8	8.4
1976	3,766.8	6,135.4	2,777.1	1,236.1	27.1	44.1	20.0	8.9
1977	3,743.1	6,268.3	2,789.4	1,273.3	26.6	44.5	19.8	9.0
1978	3,723.4	6,404.5	2,806.6	1,314.1	26.1	45.0	19.7	9.2

Note: Full-blood Aboriginals are included from, but not before, 1966.

AGE PYRAMID OF THE POPULATION, 1978



POPULATION OF AUSTRALIA : AGE LAST BIRTHDAY, BY SEX; 30TH JUNE 1978

PLATE 29

The masculinity of the population is expressed as the number of males per 100 females. This ratio is influenced by the age structure: masculinity at birth is about 105.5, but higher male mortality gradually erodes the difference so that the numbers of males and females would tend to be about the same soon after age 50 in the absence of migration, and the masculinity ratio progressively declines thereafter. The overall masculinity of the population has been declining and in 1978 was 100.42.

MASCULINITY IN EACH AGE GROUP (males per hundred females)(*a*)

	Age in years				
30 June	*0–14*	*15–44*	*45–64*	*65 and over*	*Total*
1961	104.86	106.73	102.46	75.31	102.24
1966	105.00	105.96	101.73	72.02	101.45
1971	104.85	105.87	100.40	72.17	101.17
1976	105.38	104.37	100.92	72.24	100.62
1977	105.34	104.22	100.99	72.35	100.52
1978	105.34	104.08	101.07	72.43	100.42

(*a*) Based on census results adjusted for mis-statement of age and, for 1971 and 1976, for under-enumeration.

The Aboriginal population

A brief account was given of the Australian Aboriginal population, its origin and its numbers as estimated from time to time in Year Book No. 17, pages 951–61. A special article by A. R. Radcliffe Brown dealing with the estimated number and distribution of the Aboriginal population at the date of the first settlement of European people in the continent appeared in Year Book No. 23, pages 687–696. That article arrived at an estimated minimum Aboriginal population of 251,000, based on the evidence available at the time; however estimates of upwards of 300,000 persons have since been assessed.

The task of collecting data on the Aboriginal population is difficult, raising problems of coverage, definition and reporting. For this reason, statistics, even of the total Aboriginal population, should be treated with caution. This applies particularly to comparison of the changes in numbers from one census to another which can be affected by social attitudes and by changes made in the nature of the question in an attempt to improve coverage and reporting. For the censuses of 1971 and 1976 the question was designed to distinguish those persons who identify themselves as Aboriginals or Torres Strait Islanders.

ABORIGINALS AND TORRES STRAIT ISLANDERS (*a*)
(persons)

State	*30 June 1971*	*30 June 1976*
New South Wales	23,873	40,450
Victoria	6,371	14,760
Queensland	31,922	41,345
South Australia	7,299	10,714
Western Australia	22,181	26,126
Tasmania	671	2,942
Northern Territory	23,381	23,751
Australian Capital Territory	255	827
Total Australia	**115,953**	**160,915**

(*a*) Definition of Aboriginals and Torres Strait Islanders based on the race to which persons of mixed origin consider themselves to belong and is not comparable with previous data.

Compared with the rest of the Australian population, Aboriginal women have very high rates of fertility and Aboriginal people at all ages suffer high rates of mortality. At the time of the 1971 census, the average issue of married Aboriginal women was 4.1 children (excluding still-born children), but had declined to 3.3 by 1976. Acknowledging the probability of high reporting error among this group, this represents a total fertility rate still well above that of the population as a whole. The expectation of life at birth for Aboriginal Australians may be as low as 50 years, compared with 73 years for the rest of the population.

Internal migration

The 5-yearly censuses and occasional internal migration surveys (conducted in conjunction with the population survey) are important sources of information for internal migration. Estimates of interstate migration are also made from address changes notified to the Electoral Office and the Department of Social Security.

The 1971 census set out to measure internal migration by asking respondents where they usually lived and where they had lived 5 years before. An analysis of this data is given in the Census Monograph *Internal Migration in Australia* listed at the end of this chapter. An additional question was added to the 1976 census which asked where the respondents had lived one year before and data derived from this question is included in the tables below.

Internal migration surveys were conducted in respect of each of the twelve-month periods ending 30 April to 1974 and for the twelve-month periods ended 31 December 1974, 31 January 1977 and 30 September 1978. In these surveys, the usual place of residence of respondents at the beginning and end of the reference period was ascertained. Estimates were made of the number and characteristics of those who changed their residence. (Because the estimates are based on information from occupants of a small sample of dwellings, the imprecision due to sampling variability should be kept in mind. Standard errors of estimates are published in the detailed bulletins providing the survey results. These publications are listed at the end of this chapter.)

The internal migration surveys show that about 14 to 17 per cent of all persons aged 15 and over change their residence within a twelve-month period. Of those who change their residence, about 50 per cent remain within the same capital city, slightly over 10 per cent are interstate movements and about 4 per cent are movements between State capital cities.

The New South Wales net internal migration loss reached a peak in 1973–74 when there was a net loss of 20,600 persons aged 15 and over; the State capital, Sydney, lost an estimated 26,600 persons in this age group. Since then these losses have diminished. For the twelve months ended 30 September 1978 migration flows in and out of Sydney were roughly in balance. Queensland has consistently recorded net gains throughout the seventies. Brisbane also experienced gains until the twelve months ended January 1977 when a net loss was recorded. In the twelve months ended 30 September 1978 movements in and out of Brisbane (like Sydney) were approximately equal. Since 1973–74, Western Australia has also experienced net gains, a large proportion of this going to Perth.

While the pattern of net migration gain or loss has varied over the years, the age and sex composition of those who changed residence has been rather consistent: the masculinity ratio remains around 50 to 51 per cent, and movers show a concentration in the ages 20 to 34 (58 per cent of all movers in the twelve-month period ended September 1978).

INTERNAL MIGRATION

('000 persons)

Year ended	*Within State capitals*	*Into State capitals*	*Out of State capitals*	*Net capital city gain*	*Moved to another State or Territory*	*Total movers*	*Did not move*	*Total*
30 April–								
1972(*a*)	714.5	116.0	103.3	12.7	157.2	1,393.1	7,561.5	8,954.6
1973(*a*)	815.3	118.8	128.8	−10.0	170.3	1,584.2	7,479.4	9,063.6
1974(*a*)	810.3	118.0	128.3	−10.3	170.4	1,592.6	7,645.3	9,237.9
31 December–								
1974(*a*)	682.5	97.3	105.9	−8.6	151.3	1,342.9	8,044.6	9,387.5
30 June–								
1976(*b*)	755.4	108.5	129.7	−2.1	174.4	1,522.4	7,684.1	9,206.5
31 January–								
1977(*a*)	816.3	113.1	101.6	11.5	161.9	1,581.1	8,161.6	9,742.7
30 September–								
1978(*a*)	827.4	120.8	123.4	−2.6	193.5	1,684.1	8,522.1	10,206.2

(*a*) Includes non-institutionalised civilians aged 15 years and over at the time of the survey who were resident in Australia at the beginning and end of the survey year. Changes of residence away from and back to the same address during the survey year are not counted. State capital cities exclude Canberra and Darwin. (*b*) Census data covering the population aged 15 years and over, but excluding persons overseas in 1975, and those who failed to answer the question about place of usual residence one year before. These figures do not include any adjustment for under-enumeration.

INTERSTATE MIGRATION

Year ended		*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*
		NET GAIN (+) OR LOSS (-) ('000 PERSONS)							
30 April	1973(*a*) . . .	-17.5	+ 6.9	+10.4	-2.9	-1.3	+1.1	(*b*)	+3.5
	1974(*a*) . . .	-20.6	- 3.2	+ 9.1	-1.2	+7.3	+2.7	-2.8	+8.8
31 December	1974(*a*) . . .	-16.3	- 3.7	+ 5.7	-1.3	+8.2	+1.6	(*b*)	+6.4
30 June	1976(*c*) . . .	-11.1	- 9.4	+ 8.8	+1.0	+6.7	-0.6	+2.0	+2.7
31 January	1977(*a*) . . .	-13.5	+ 5.3	+ 2.7	+2.9	+5.5	-2.0	-2.5	+1.6
30 September	1978(*a*) . . .	(b)	-10.5	+ 6.4	-1.8	+4.1	-2.1	+2.3	+1.7
		NET GAIN OR LOSS PER TEN THOUSAND OF AUSTRALIAN POPULATION (*d*)							
30 April	1973(*a*) . . .	-19.31	+ 7.61	+11.47	-3.20	-1.43	+1.21	(*b*)	+3.86
	1974(*a*) . . .	-22.30	- 3.46	+ 9.85	-1.30	+7.90	+2.92	-3.03	+9.53
31 December	1974(*a*) . . .	-17.36	- 3.94	+ 6.07	-1.38	+8.74	+1.70	(*b*)	+6.82
30 June	1976(*c*) . . .	-12.06	-10.21	+ 9.56	+1.09	+7.28	-0.65	+2.17	+2.93
31 January	1977(*a*) . . .	-13.86	+ 5.44	+ 2.77	+2.98	+5.65	-2.05	-2.57	+1.64
30 September	1978(*a*) . . .	(*b*)	-10.25	+ 6.23	-1.73	+4.02	-2.03	+2.23	+1.64

(*a*) Non-institutionalised civilians aged 15 years and over at the time of the survey whose usual residence at the end of the survey year was in another State or Territory than at the beginning of the year and who were resident in Australia on both dates. (*b*) Very small estimate subject to sampling variability too high for most practical uses. (*c*) Census data covering the population aged 15 years and over but excluding persons overseas in 1975, and those who failed to answer or inadequately answered the question about place of usual residence one year before. These figures do not include any adjustment for under-enumeration. (*d*) Necessarily, but contrary to normal practice, the population (non-institutionalised civilians aged 15 years and over) is that at the end of the period.

VITAL STATISTICS

Registration of vital events, i.e. births, deaths and marriages, has been compulsory throughout Australia since 1856. The total number of these occurrences is available for each year since the 1860s and more detailed information since the 1910s. The number of divorces has been published since 1891, but other details have been published on a consistent basis only since the 1950s.

Crude rates are the number of vital events per thousand of the mean population of a particular year. *Natural increase* is the excess of births over deaths. In 1978, births numbered 224,181, deaths 108,425 and the natural increase was 115,756. The rate of natural increase for that year was 8.12 per thousand of the mean population made up of crude birth rate 15.73 and crude death rate 7.61. This represented a considerable decline since 1955–60 when the birth rate was 22.59, the death rate 8.78 and natural increase 13.81.

BIRTHS, DEATHS AND NATURAL INCREASE

	Number			*Crude rates per 1000 of mean population*		
Period	*Births*	*Deaths*	*Natural increase*	*Births*	*Deaths*	*Natural increase*
Annual averages—						
1956–60	222,459	86,488	135,971	22.59	8.78	13.81
1961–65	232,952	95,465	137,487	21.34	8.75	12.60
1966–70	240,325	107,263	133,062	19.95	8.90	11.05
1971–75	253,438	111,216	142,222	18.99	8.32	10.67
Annual totals—						
1972	264,969	109,760	155,209	20.11	8.33	11.78
1973	247,670	110,822	136,848	18.51	8.28	10.23
1974	245,177	115,833	129,344	18.03	8.52	9.51
1975	233,012	109,021	123,991	16.92	7.91	9.00
1976	227,810	112,662	115,148	16.37	8.10	8.27
1977	226,291	108,790	117,501	16.08	7.73	8.35
1978 p	224,181	108,425	115,756	15.73	7.61	8.12

There were 102,958 marriages in 1978, a crude rate of 7.23. Divorces numbered 40,525 bringing the crude divorce rate to 2.84, which was a reduction from a peak of 4.55 in 1976.

MARRIAGE AND DIVORCE

	Number		*Crude rates per 1,000 of mean population*	
Period	*Marriages*	*Divorces*	*Marriage*	*Divorce*
Annual averages—				
1956–60	73,854	6,788	7.50	0.69
1961–65	83,250	7,611	7.63	0.70
1966–70	106,188	10,738	8.81	0.89
1971–75	111,802	17,405	8.36	1.30
Annual totals—				
1973	112,700	16,266	8.42	1.22
1974	110,673	17,744	8.14	1.30
1975	103,973	24,307	7.55	r1.76
1976	109,973	63,267	7.90	r4.55
1977	104,918	45,175	7.45	3.21
1978	102,958	p40,525	7.23	p2.84

Births and fertility

Special interest attaches to fertility as an element of population change. Fertility has had considerable impact on the population structure. Extensive studies have revealed patterns of fertility which justify attempts to predict the numbers of future births. In 1971, there was a record 276,362 births but the number of births has declined progressively in each year since. In 1978, there were 224,181 births.

Live births

Extensive statistics of live births are available since the 1910s. These include information about sex of children, the incidence of multiple births, marital status of the parents, the number of previous issue to the mother's existing marriage, the duration of marriage, the age of parents and their country of birth.

With rare exceptions, statistics indicate an excess of male over female births. In 1978, there were 114,964 male births and 109,217 female births, a masculinity ratio of 105.26.

The proportion of children born to parents not married to each other at the time of birth has been increasing. In 1951–55, 3.97 per cent of births were ex-nuptial. In 1978, there were 24,744 ex-nuptial births, 11.04 per cent of the total, the highest proportion recorded.

LIVE BIRTHS: SEX AND NUPTIALITY

	Live births				*Ex-nuptial live births*			
Period	*Male*	*Female*	*Persons*	*Masculinity*	*Persons*	*Masculinity*	*Percentage of total*	*Per 1000 of mean population*
Annual averages—								
1956–60	114,288	108,171	222,459	105.65	10,027	104.49	4.51	1.02
1961–65	119,777	113,175	232,952	105.83	13,798	106.88	5.92	1.26
1966–70	123,326	116,999	240,325	105.41	18,937	105.11	7.88	1.57
1971–75	130,047	123,391	253,438	105.39	24,520	106.71	9.69	1.88
Annual totals—								
1973	126,969	120,701	247,670	105.19	24,198	104.69	9.77	1.81
1974	126,295	118,882	245,177	106.24	23,408	108.79	9.55	1.72
1975	119,850	113,162	233,012	105.91	23,705	107.83	10.17	1.72
1976	116,838	110,972	227,810	105.29	23,064	108.20	r10.12	1.66
1977	116,551	109,740	226,291	106.21	r23,314	106.03	10.30	1.66
1978	114,964	109,217	224,181	105.26	24,744	106.73	11.04	1.74

About 1 per cent of confinements result in twin births and about one in 10,000 in triplets. Quadruplets occur about once in 250,000 confinements. The likelihood of multiple confinement is about 0.9 per cent for the first nuptial confinement, rising to about 1 per cent at the second confinement and to as much as 1.5 per cent at the fourth and subsequent confinements. The incidence of multiple births also rises with age of mother. In 1978 there were 219,780 single confinements, 2,181 twin confinements, 37 cases of triplets, and 1 of quadruplets.

LIVE BIRTHS AND CONFINEMENTS: PLURALITY

	Confinements				
Period	*Single*	*Twin*	*Triplet*	*Other multiple*	*Total*
Annual averages–					
1956–60	217,397	2,542	26	–	219,965
1961–65	227,948	2,509	26	–	230,483
1966–70	235,132	2,481	25	2	237,640
1971–75	248,459	2,488	25	1	250,973
Annual totals–					
1973	242,776	2,448	28	–	245,252
1974	240,437	2,367	23	2	242,829
1975	228,525	2,223	28	1	230,777
1976	223,264	2,281	19	1	225,565
1977	222,223	2,020	23	3	224,269
1978	219,780	2,181	37	1	221,999

Since the 1950s, there has been a decline in the proportion, and since 1971 in the number, of women having three or more children to their marriage. During the 1950s and early 1960s the median age of mother at first nuptial birth declined, but in recent years it has risen. In 1978, median age at first birth was 24.85 years.

NUPTIAL CONFINEMENTS: BIRTH ORDER

	Birth order									
Period	*1*	*2*	*3*	*4*	*5*	*6*	*7 and over*	*Total nuptial (a)*	*Ex-nuptial*	*Confinements*
NUMBER OF CONFINEMENTS										
Annual averages—										
1956–60 . . .	65,695	57,532	40,920	22,968	11,299	5,558	6,075	210,047	9,918	219,965
1961–65 . . .	69,281	57,971	40,818	23,612	12,125	6,160	6,862	216,829	13,655	230,483
1966–70 . . .	80,999	62,930	37,446	18,899	8,961	4,489	5,213	218,937	18,707	237,644
1971–75 . . .	88,120	74,641	36,914	15,216	6,006	2,805	2,959	226,674	24,299	250,973
Annual totals—										
1973	85,707	74,004	35,694	14,444	5,779	2,642	2,996	221,282	23,970	245,252
1974	86,248	75,996	34,810	13,362	4,784	2,195	2,213	219,629	23,200	242,829
1975	81,543	73,456	33,036	11,653	3,979	1,873	1,699	207,267	23,510	230,777
1976	78,086	73,338	33,505	11,130	3,584	1,497	1,534	202,692	22,873	225,565
1977	78,588	70,859	34,596	11,032	3,438	1,349	1,263	201,135	23,134	224,269
1978	76,999	68,759	34,783	11,248	3,307	1,224	1,134	197,461	24,538	221,999
MEDIAN AGE OF MOTHER										
Annual averages—										
1956–60 . . .	23.54	26.43	28.86	30.99	32.66	33.95	35.03	27.18	24.23	27.11
1961–65 . . .	23.12	25.72	28.35	30.64	32.51	33.88	35.02	26.54	22.54	26.38
1966–70 . . .	23.14	25.63	28.21	30.54	32.53	34.06	35.42	25.92	21.37	25.67
1971–75 . . .	23.60	25.96	28.21	30.55	32.53	34.09	36.84	25.87	21.12	25.58
Annual totals—										
1973	23.60	25.92	28.17	30.52	32.50	34.05	36.89	25.84	21.00	25.55
1974	23.77	26.09	28.23	30.52	32.67	34.12	36.94	25.96	21.10	25.66
1975	23.95	26.25	28.32	30.57	32.67	34.30	36.96	26.07	21.29	25.76
1976	24.23	26.22	28.45	30.40	32.38	34.30	37.32	26.22	21.60	25.91
1977	24.59	26.39	28.64	30.53	32.41	34.54	37.08	26.46	21.51	26.13
1978	24.85	26.56	28.75	30.48	32.46	33.98	37.99	26.65	21.55	26.28

(a) Includes those for whom birth order was not stated; in 1978 there were 7 such cases.

Since 1971, there has been a decline in the number of confinements occurring in the early years of marriage. The number of confinements to marriages of 10 years duration and longer has been declining since the 1950s.

NUPTIAL CONFINEMENTS: DURATION OF MARRIAGE

Period	*Duration of marriage, completed years*									
	0	*1*	*2*	*3*	*4*	*5–9*	*10–14*	*15 and over*	*Not stated*	*Total*
Annual averages—										
1956–60 . . .	27,590	24,161	23,475	20,987	18,605	60,449	24,531	10,249	n.a.	210,047
1961–65 . . .	31,046	24,775	24,885	22,237	18,843	58,855	25,149	11,038	n.a.	216,829
1966–70 . . .	31,920	25,903	27,566	25,253	20,831	57,457	20,415	9,100	491	218,937
1971–75 . . .	27,249	25,841	30,072	29,674	25,544	64,690	16,676	6,373	556	226,674
Annual totals—										
1973	26,433	24,721	29,853	30,054	25,376	61,951	15,999	6,221	674	221,282
1974	r24,238	24,339	29,524	30,133	26,487	64,543	14,546	5,257	562	219,629
1975	20,890	23,327	r26,657	28,089	25,725	64,302	13,519	4,312	446	207,267
1976	18,774	21,231	25,706	26,555	25,359	67,668	13,136	3,822	441	202,692
1977	18,757	20,583	23,507	25,774	24,269	70,369	13,960	3,560	356	201,135
1978	18,269	20,205	21,919	23,830	23,745	71,459	14,322	3,327	385	197,461

Fertility

General fertility rates, which are the number of births to women of any age per thousand females aged 15–44, are the simplest measure of fertility. These have been calculated for the three years' births around each census from 1881 and provide a consistent series for nuptial and ex-nuptial fertility as well as for total fertility.

The rates show a substantial decline in fertility over the total period with a low point in 1932–34 and a minor recovery peaking in 1960–62. The general rate of 78 births per thousand females aged 15–44 was only 46 per cent of the rate in 1880–82. The decline has been greater among married women, the rate for 1975–77 of 107 per thousand being only 33 per cent of the 1880–82 rate. Ex-nuptial fertility in 1975–77 was 23 per thousand, 64 per cent above 1880–82.

FERTILITY RATES: AUSTRALIA

Period	*Births per 1000 women, aged 15–44 years*	*Nuptial births per 1000 married women, aged 15–44 years*	*Ex-nuptial births per 1000 single, widowed or divorced women aged 15–44 years*	*Index numbers (base year 1880–82 = 100)*		
				Births per 1000 women, aged 15–44 years	*Nuptial births per 1000 married women, aged 15–44 years*	*Ex-nuptial births per 1000 single, widowed or divorced women*
1880–82	170	321	14	100	100	100
1890–92	159	332	16	94	103	114
1900–02	117	235	13	69	73	93
1910–12	117	236	13	69	74	93
1920–22	107	197	11	63	61	79
1932–34	71	131	7	42	41	50
1946–48	104	160	11	61	50	79
1953–55	109	149	14	64	46	100
1960–62	112	154	18	66	48	129
1965–67	95	132	21	56	41	150
1970–72	100	134	29	59	42	207
1975–77	78	107	23	46	33	164

Age specific birth rates provide a measure of changing patterns of fertility within the fertile ages. The sum of these rates, the *total fertility rate*, is a more useful measure of change than the general fertility rate since it takes into account the changing age structure of the population within the fertile ages. The total fertility rate represents the number of children a woman would bear in her lifetime if she experienced the rates of the year shown. Fertility is declining at all ages. The decline started first with the older ages in the 1950s, and spread progressively to the younger ages. Fertility for ages 15–19 years has been declining in the 1970s. The total fertility rate, which rose in the 1950s, has since declined and in 1978 was 1.979.

AGE-SPECIFIC BIRTH RATES(*a*)

	Age group (years)							
Period	*15–19*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*Total fertility(b)*
1951–55	39.54	192.81	192.97	123.51	65.05	20.50	1.53	3.180
1956–60	44.20	216.42	211.47	126.06	63.91	18.96	1.45	3.412
1961–65	46.50	203.95	207.15	122.38	59.18	17.54	1.19	3.289
1966–70	49.39	172.59	187.64	103.03	46.84	12.89	1.00	2.866
1971–75	48.02	154.84	170.63	85.69	34.25	8.65	0.59	2.513
1973	47.93	151.28	164.85	82.70	32.88	8.45	0.60	2.443
1974	44.42	146.07	161.27	79.25	29.51	7.30	0.46	2.342
1975	40.37	134.44	150.95	74.96	26.40	6.17	0.37	2.168
1976	35.55	129.22	147.34	73.06	24.28	5.57	0.41	2.077
1977	32.59	123.06	147.23	74.84	24.01	5.06	0.30	2.035
1978	30.38	116.87	145.93	74.22	23.63	4.49	0.25	1.979

(*a*) Number of births per 1,000 women in each age group. Excludes particulars of full-blood Aboriginals before 1966. (*b*) The sum of the age specific rates multiplied by 5 and divided by 1,000. This is the number of children a woman would bear in her lifetime if she experienced the rates of the year shown.

The gross reproduction rate is derived from total fertility and the ratio of female to total births. It indicates the number of female children who would be born on average to women supposing the rates from which it was calculated were to apply throughout the reproductive period. It is an indication of the extent to which the population is reproducing itself except that it does not allow for females who failed to survive to the end of the childbearing period. *The net reproduction rate* allows for such mortality. It is obtained by multiplying the age-specific rates by the survivor proportions in the corresponding age group of the stationary or life table population. Mortality in childhood and young adulthood is now so low that there is little difference between current gross and net reproduction rates. In 1978 the gross and net reproduction rates were at their lowest recorded level.

GROSS AND NET REPRODUCTION RATES

Period	*Gross reproduction rate*	*Net reproduction rate*	*Life tables used*
1954	1.559	1.499	1953–55
1961	1.728	1.672	1960–62
1966	1.400	1.357	1965–67
1971	1.427	1.386	1970–72
1972	1.314	1.277	
1973	1.191	1.157	
1974	1.135	1.102	
1975	1.053	1.023	
1976	1.012	0.983	
1977	0.987	0.958	
1978	0.964	0.937	

Fertility of Australian Marriages. This series is designed to show the pattern of fertility within marriage. Births in each year and at each duration of marriage to parents who were married in Australia are related (per thousand) to Australian marriages of the relevant number of years earlier.

The sum of these rates for all duration is *the index of current marriage fertility* and indicates the number of children marriages would produce according to the recorded fertility of that year.

Fertility in the first two to three years of marriage has fallen very substantially. For instance, fertility in the first year of marriage fell from 369 births per thousand marriages in 1956–60 to 167 in 1978. There has also been a substantial decline for marriages of ten years duration or longer from 292 per thousand at durations 10–14 years in 1956–60 to 124 per thousand in 1978. At longer durations the fall is proportionally greater still. There has been no rise at medium durations to compensate for the decline early and late in marriage. The index of current marriage fertility declined from the equivalent of 2.7 children per marriage in 1956–60 to 1.7 in 1978.

The annual rates accumulated according to year of marriage show the experience of successive marriage cohorts. These marriage generation tables demonstrate an increasing delay by couples in having their first child. The marriages of 1955–56 had 1,262 children per thousand marriages by the end of the fourth year of marriage, compared with 1,314 for those married in 1960–61, and 784 for those married in 1974–75.

FERTILITY OF AUSTRALIAN MARRIAGES: ANNUAL RATES

	Duration of marriage (years)										
Births occurring in—	*Under 1*	*1*	*2*	*3*	*4*	*Total under 5*	*5–9*	*10–14*	*15–19*	*20 and over*	*Total*
Annual averages—											
1956–60 . . .	369	317	309	277	243	1,515	751	292	101	26	2,685
1961–65 . . .	377	304	311	281	239	1,512	741	293	100	22	2,668
1966–70 . . .	302	248	278	265	227	1,320	663	234	79	17	2,313
1971–75 . . .	232	211	248	249	219	1,159	606	178	54	14	2,011
Annual rates—											
1973	228	201	240	246	214	1,129	581	170	54	12	1,946
1974	206	202	240	242	215	1,105	572	152	45	9	1,883
1975	185	192	222	228	205	1,032	544	135	37	9	1,757
1976	172	185	214	222	206	999	555	126	32	7	1,719
1977	163	182	206	214	201	967	567	129	30	6	1,699
1978	167	170	193	207	195	933	569	124	27	6	1,659

FERTILITY OF AUSTRALIAN MARRIAGES(*a*)

	Completed duration of marriage (years)						
Marriages of year—	*1*	*2*	*3*	*4*	*5*	*10*	*15*
1955–56	352	674	983	1,262	1,511	2,262	2,497
1960–61	403	721	1,039	1,314	1,536	2,194	2,379
1965–66	324	575	855	1,125	1,356	1,961	..
1970–71	282	502	742	984	1,189	..	..
1971–72	257	458	698	926	1,137	..	..
1972–73	228	430	652	874	1,075	..	..
1973–74	206	398	512	827	1,023	..	..
1974–75	185	370	577	784	..	..	..
1975–76	172	354	547	..	..	..	..
1976–77	163	333	..	..	..	..	..
1977–78	167	..	..	..	..	..	..

(*a*) Cumulated number of births per thousand marriages.

Birth expectations

An Australia-wide survey of birth expectations of married women was conducted in November 1976 as a supplement to the regular quarterly population survey of the Australian Bureau of Statistics. Questions were directed to ever-married women under the age of 40. Information was obtained about the birth date and sex of each child and the number of children still living. Women married at the time of the survey were asked how many children they expected to have, altogether and in the next 5 years, and when they expected the next child to be born.

The survey results indicate a preference for the 2-child family. For instance, of the women covered by the survey (married and aged 15–39) who had not had any children, 48.2 per cent expected to have two children, compared with only 6.1 per cent who expected to have one child, 21.0 per cent three or more, and 19.7 per cent did not expect to have any children. Five per cent of these women expected to have children but were uncertain of the number. Similarly, 48.5 per cent of those with one child expected to have one more, as against 26.6 per cent expected to stop with one, and 22.7 per cent expecting two or more additional children. Of those with two children, 84.2 per cent expected to have no more children. These figures exclude women who did not know whether they would have any further children.

MARRIED WOMEN AGED 15-39(*a*): LIVE-BORN AND EXPECTED CHILDREN, NOVEMBER 1976

(per cent)

Additional children expected	*Women whose live-born children numbered*			
	None	*One*	*Two*	*Three or more*
None	19.7	26.6	84.2	94.0
One	6.1	48.5	11.3	4.9
Two	48.2	17.3	3.5	0.7
Three or more	21.0	5.4	0.6	(*b*)
Uncertain of number	5.0	2.2	0.4	(*b*)
Total	**100.0**	**100.0**	**100.0**	**100.0**

(*a*) Excludes women in institutions and the Australian defence forces, and also women who did not know whether they expect to have any (more) children. (*b*) Small estimates subject to sampling variability too high for most practical uses.

If the birth expectations of these women are realised, the families of younger women will be smaller on average than those now approaching the end of their reproductive life. Thus, the expected average family size (live-born plus expected children) of married women under 25 is 2.3 compared with an average family size of 2.9 for married women aged 35–39 at the time of the survey.

MARRIED WOMEN AGED 15-39(*a*): AVERAGE ISSUE, EXPECTED CHILDREN AND TOTAL EXPECTED FAMILY SIZE, NOVEMBER 1976

	Number of women ('000)	*Average number of live-born children*	*Average number of additional children expected*	*Average number of live-born and expected children*
BY AGE				
Age group (years)—				
15–19	40.0	0.5	1.8	2.3
20–24	307.8	0.8	1.5	2.3
25–29	429.7	1.7	0.7	2.4
30–34	394.4	2.4	0.2	2.6
35–39	348.3	2.9	(b)	2.9
Total	**1,520.2**	**1.9**	**0.6**	**2.5**
BY DURATION OF CURRENT MARRIAGE				
Duration (years)—				
Less than 2	161.4	0.4	1.9	2.3
2 and under 5	301.6	1.0	1.3	2.2
5 and under 10	459.1	1.9	0.4	2.4
10 years or longer	598.0	2.8	0.1	2.9
Total	**1,520.2**	**1.9**	**0.6**	**2.5**

(*a*) Excludes women in institutions and the Australian defence forces, and also women who did not know whether they expected to have any (more) children. (*b*) Small estimate subject to sampling variability too high for most practical uses.

Mortality

The number of deaths per year is in excess of 100,000 a year. The increase from previous decades arises from the overall growth of the population, and from the advanced age of an increasing proportion of the population. The crude death rate, which fell from over 12 per 1,000 at the beginning of the century to 7.61 per 1,000 in 1978, can be expected to rise slowly as a result of further aging of the population, unless there is a more than off-setting drop in age specific death rates.

General mortality

Between 1953–55 and 1960–62 mortality declined in every age-group. Between 1960–62 and 1970–72 there were further declines in most age groups, particularly infant mortality. However, increases in mortality were recorded for males aged 15–24 years. Since 1970–72, there have been further decreases in mortality at most ages.

Mortality is greater for males than for females at every age. It is relatively high in the first year of life (13.98 per 1,000 males and 10.86 per 1,000 females in 1977), very low in childhood and young adulthood, and then rises in middle and old age.

AGE-SPECIFIC DEATH RATES(*a*)

Age group (years)	*1953–55 (b)*	*1960–62 (b)*	*1965–67 (b)*	*1970–72 (b)*	*1975–77 (b)*	*1975*	*1976*	*1977*
MALES								
Under 1(*c*)	25.18	22.36	20.85	18.85	15.27	16.29	15.15	13.98
1–4 . . .	1.69	1.15	1.08	0.99	0.78	0.84	0.76	0.73
5–9 . . .	0.67	0.52	0.45	0.45	0.37	0.36	0.37	0.39
10–14 . . .	0.63	0.48	0.46	0.42	0.39	0.38	0.40	0.40
15–19 . . .	1.51	1.23	1.33	1.50	1.51	1.55	1.50	1.47
20–24 . . .	1.82	1.62	1.67	1.75	1.73	1.69	1.68	1.80
25–29 . . .	1.68	1.49	1.48	1.38	1.29	1.31	1.21	1.38
30–34 . . .	1.79	1.69	1.64	1.49	1.41	1.45	1.39	1.34
35–39 . . .	2.40	2.26	2.45	2.31	1.99	2.07	1.97	1.95
40–44 . . .	3.64	3.67	3.82	r3.45	3.29	3.33	3.35	3.11
45–49 . . .	6.01	5.96	6.14	6.06	5.67	5.86	5.58	5.66
50–54 . . .	10.44	10.01	10.45	9.92	9.21	9.65	9.17	8.86
55–59 . . .	17.03	16.57	16.96	16.58	14.78	15.38	14.97	14.06
60–64 . . .	26.58	26.44	27.59	26.59	23.77	24.15	24.31	22.98
65–69 . . .	41.28	41.68	43.66	42.04	37.42	37.54	38.19	36.51
70–74 . . .	64.53	63.04	66.84	63.45	57.92	59.15	58.82	55.74
75–79 . . .	98.77	94.43	99.77	99.99	88.24	86.57	93.79	85.82
80–84 . . .	145.88	141.83	146.95	r143.42	135.05	133.25	140.40	127.09
85 and over	248.14	243.69	241.98	r230.68	227.86	225.46	238.79	216.44
FEMALES								
Under 1(*c*)	19.88	17.57	16.35	14.37	11.85	12.13	12.44	10.86
1–4 . . .	1.35	1.08	1.14	0.78	0.59	0.66	0.54	0.57
5–9 . . .	0.50	0.38	0.34	0.33	0.27	0.26	0.27	0.26
10–14 . . .	0.37	0.29	0.27	r 0.26	0.23	0.23	0.24	0.22
15–19 . . .	0.58	0.50	0.54	0.59	0.52	0.53	0.47	0.56
20–24 . . .	0.67	0.60	0.63	0.58	0.51	0.49	0.50	0.54
25–29 . . .	0.83	0.71	0.72	0.67	0.52	0.52	0.52	0.55
30–34 . . .	1.11	0.95	0.98	0.89	0.75	0.77	0.75	0.70
35–39 . . .	1.74	1.47	1.54	1.44	1.21	1.31	1.19	1.14
40–44 . . .	2.55	2.26	2.31	2.23	1.98	2.02	1.94	1.93
45–49 . . .	4.19	3.65	3.86	3.63	3.15	3.27	3.13	3.08
50–54 . . .	6.43	5.55	5.87	5.56	4.91	4.95	4.93	4.88
55–59 . . .	9.25	8.14	8.67	r8.29	7.42	7.70	7.43	7.13
60–64 . . .	14.75	13.31	13.56	13.01	11.57	11.83	11.61	11.36
65–69 . . .	23.89	21.99	21.94	20.70	18.32	18.93	18.66	17.37
70–74 . . .	40.93	37.14	37.47	35.79	30.01	31.36	30.19	28.72
75–79 . . .	69.72	63.18	62.37	60.24	51.99	51.70	53.91	50.72
80–84 . . .	117.36	105.10	107.93	100.96	89.36	89.71	91.54	86.20
85 and over	213.69	210.20	197.73	r187.16	182.26	176.78	192.55	177.10

(*a*) Number of deaths per 1,000 of population of the same age group and sex. The populations used in the calculation of these rates are based on census populations at 30 June 1961, 1966, 1971 and 1976; and estimates at 30 June for intercensal years. Since 1971, the population figures have been adjusted for under-enumeration. (*b*) Average annual rate per 1,000 of census population, based on deaths in the three year period, i.e. census year and the years preceding and following it. (*c*) Infant deaths per 1,000 live births.

AGE AT DEATH, 1977

	Number			*Per cent*		
Age at death (years)	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Under 1	1,629	1,192	2,821	2.70	2.46	2.59
1–4	363	268	631	0.60	0.55	0.58
5–9	259	166	425	0.43	0.34	0.39
10–14	256	132	388	0.42	0.27	0.36
15–19	959	348	1,307	1.59	0.72	1.20
20–24	1,068	313	1,381	1.77	0.65	1.27
25–29	809	314	1,123	1.34	0.65	1.03
30–34	721	356	1,077	1.20	0.73	0.99
35–39	856	476	1,332	1.42	0.98	1.22
40–44	1,215	712	1,927	2.01	1.47	1.77
45–49	2,259	1,150	3,409	3.75	2.37	3.13
50–54	3,482	1,843	5,325	5.77	3.80	4.89
55–59	4,634	2,386	7,020	7.68	4.92	6.45
60–64	6,432	3,437	9,869	10.66	7.09	9.07
65–69	8,091	4,410	12,501	13.41	9.10	11.49
70–74	8,553	5,537	14,090	14.18	11.42	12.95
75–79	7,713	7,220	14,933	12.79	14.89	13.73
80–84	5,694	7,836	13,530	9.44	16.17	12.44
85–89	3,698	6,438	10,136	6.13	13.28	9.32
90–94	1,288	3,002	4,290	2.14	6.19	3.94
95–99	286	825	1,111	0.47	1.70	1.02
100 and over	39	106	145	0.06	0.22	0.13
Not stated	16	3	19	0.03	0.01	0.02
Total	**60,320**	**48,470**	**108,790**	**100.00**	**100.00**	**100.00**

Perinatal mortality

Perinatal deaths comprise foetal deaths (stillbirths) and neonatal deaths (deaths within 28 days after birth). From 1972, statistics of stillbirths have been compiled on the basis of amended legislation in all States which provides for all foetal deaths of at least 20 weeks gestation or 400 grams weight to be registered. Previously, the statistics were based on a minimum of 28 weeks gestation. Neonatal deaths account for about 70 per cent of all deaths occurring within the first year of life.

In 1977, there were 4,096 perinatal deaths registered in Australia, which continued the decline in numbers and rates since 1972, the first year in which perinatal deaths were tabulated uniformly throughout Australia. Of these 4,096 deaths, 2,130 were foetal deaths and 1,966 were neonatal deaths.

The neonatal death rate continued its long historical decline, falling to 8.69 per 1,000 live births in 1977. The total infant mortality rate fell to 12.47.

INFANT DEATHS

	Number			*Per 1,000 live births*		
Period	*Less than 1 month*	*1–11 months*	*Total*	*Less than 1 month*	*1–11 months*	*Total*
Annual averages—						
1956–60	3,353	1,330	4,683	15.07	5.98	21.05
1961–65	3,260	1,264	4,525	13.99	5.43	19.42
1966–70	3,141	1,208	4,349	13.07	5.03	18.10
1971–75	2,930	1,185	4,115	11.52	4.66	16.18
Annual totals—						
1972	3,175	1,255	4,430	11.98	4.74	16.72
1973	2,927	1,158	4,085	11.82	4.68	16.49
1974	2,854	1,104	3,958	11.64	4.50	16.14
1975	2,330	995	3,325	10.00	4.27	14.27
1976	2,251	899	3,150	9.88	3.95	13.83
1977	1,966	855	2,821	8.69	3.78	12.47
males	1,123	506	1,629	9.64	4.34	13.98
females	843	349	1,192	7.68	3.18	10.86

STILL BIRTHS

Period	Number	Per 1,000 of all births (still and alive)
Annual average—		
1956–60	3,293	14.6
1961–65	2,946	12.5
1966–70	2,563	10.6
1971–75	2,772	10.8
Annual totals—		
1973(*a*)	2,924	11.7
1974	2,914	11.8
1975	2,414	10.3
1976	2,403	10.4
1977	2,132	9.3
1978p	2,119	9.4

(*a*) Prior to 1972 based on foetal deaths of minimum 28 weeks of gestation. Since 1972 includes foetal deaths of at least 20 weeks of gestation or 400 grammes weight.

Life expectancy

Life tables are measures of life expectancy compiled from the death rates prevailing over a period. They form the basis for the *stationary population* which is the population that would result from a constant number of births each year which had been subject at each age to the life table mortality rates.

Since 1921, official life tables have been calculated from the separate male and female populations as enumerated at the census, and the deaths of the three years around the census. Earlier life tables were compiled for decennial periods 1881–90, 1891–1900 and 1901–10. Life tables have also been prepared in recent years using annual age estimates and the deaths of a particular year.

A key value in life tables is the expectation of life remaining at each age. Expectation of life, particularly at birth, improved at every age in the first half of this century. Since 1953–55 and 1970–72 there was little change in expectation of life. However, since 1970–72 there have been significant improvements, particularly in expectation of life at birth which has increased between 1970–72 and 1977 from 67.8 years to 69.9 for males and from 74.5 years to 76.8 for females.

COMPLETE EXPECTATION OF LIFE AT SELECTED AGES

	Expectation of life (a) at									
	Birth		*1 year of age*		*20 years of age*		*40 years of age*		*60 years of age*	
Period	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
1901–11 (*b*)(*c*)	55.2	58.8	60.0	62.9	44.7	47.5	28.6	31.5	14.4	16.2
1920–22 (*b*)(*c*)	59.2	63.3	62.7	66.0	47.0	50.0	30.1	33.1	15.1	17.2
1932–34 (*b*)(*c*)	63.5	67.1	65.5	68.7	48.8	51.7	31.1	34.0	15.6	17.7
1946–48 (*b*)(*c*)	66.1	70.6	67.3	71.5	49.6	53.5	31.2	34.9	15.4	18.1
1953–55 (*b*)(*c*)	67.1	72.8	67.9	73.5	50.1	55.1	31.7	36.0	15.5	18.8
1960–62 (*b*)(*c*)	67.9	74.2	68.5	74.5	50.4	56.2	31.8	37.0	15.6	19.5
1965–67 (*c*)	67.6	74.2	68.1	74.4	50.0	56.0	31.4	36.9	15.3	19.5
1970–72 (*c*)	67.8	74.5	68.3	74.7	50.2	56.4	31.6	37.2	15.4	19.7
1973 (*d*)	68.6	75.5	68.9	75.6	50.8	57.2	32.1	37.9	15.8	20.4
1974 (*d*)	68.4	75.4	68.6	75.4	50.6	57.0	31.9	37.7	15.7	20.2
1975 (*d*)	69.2	76.2	69.3	76.1	51.2	57.6	32.6	38.4	16.3	20.8
1976 (*d*)	69.3	76.3	69.4	76.2	51.2	57.7	32.5	38.4	16.1	20.7
1977 (*d*)	69.9	76.8	69.9	76.6	51.7	58.1	33.1	38.8	16.6	21.1

(*a*) The average number of additional years a person of the given age and sex might expect to live if the age-specific death rates of the given period continued throughout his/her lifetime. (*b*) Excludes particulars of full-blood Aboriginals prior to 1967. (*c*) Based on Official Life Tables calculated by the Australian Government Actuary. (*d*) Based on annual life tables calculated by the Australian Statistician. These tables are based on age estimates revised in light of the 1976 Census results adjusted for under-enumeration and mis-statement of ages.

The inverse of the expectation of life at birth is sometimes called *the true death rate*. This rate is a measure of mortality unaffected by the current age structure of the population, and is therefore a better measure of change than crude death rates.

TRUE DEATH RATES

	True death rate(a)	
Period	*Males*	*Females*
1953–55	14.89	13.75
1960–62	14.72	13.48
1965–67	14.79	13.49
1970–72	14.75	13.42
1972	14.60	13.28
1973	14.59	13.25
1974	14.63	13.27
1975	14.45	13.13
1976	14.43	13.11
1977	14.31	13.03

(*a*) Number of deaths per 1,000 in stationary population.

Marriages

The *Australian Marriage Act* 1961 came into operation on 1 September 1963, placing the marriage laws throughout Australia on a uniform basis. Marriages may be celebrated by a minister of religion registered as an authorised celebrant, or by a district registrar or other person authorised by the Attorney-General. The minimum marriageable age is 18 years for males and 16 years for females. A judge or magistrate may, in exceptional circumstances, make an order authorising a male who has attained 16 years or a female who has attained 14 years to marry a person of marriageable age.

In 1978, 77 per cent of grooms and 78 per cent of brides were marrying for the first time; 3 per cent were widowers and 4 per cent widows; and 20 per cent of grooms and 18 per cent of brides had been divorced. The proportion of marriages involving divorced persons increased sharply in 1976 and slightly thereafter. This is associated with the larger numbers of divorces granted since the introduction of the *Family Law Act* 1975.

Median age at first marriage declined during the 1950s and 1960s but has risen slightly in recent years. In 1978 it was 23.94 years for males and 21.55 for females. In 1978, 4.5 per cent of grooms and 21.6 per cent of brides married under the age of 20.

MARITAL STATUS AT MARRIAGE

	Grooms				*Brides*			
Period	*Bachelors*	*Widowers*	*Divorced*	*Total bride-grooms*	*Spinsters*	*Widows*	*Divorced*	*Total brides*
				NUMBER				
Annual averages—								
1956–60	66,364	3,086	4,404	73,854	65,579	3,305	4,970	73,854
1961–65	75,384	3,063	4,803	83,250	74,962	3,218	5,070	83,250
1966–70	96,438	3,320	6,430	106,188	96,341	3,568	6,279	106,188
1971–75	99,203	3,473	9,126	111,802	99,287	3,810	8,705	111,802
Annual totals—								
1973	99,741	3,614	9,345	112,700	99,950	3,906	8,844	112,700
1974	97,872	3,367	9,434	110,673	98,031	3,764	8,878	110,673
1975	89,912	3,308	10,753	103,973	90,010	3,681	10,282	103,973
1976	86,792	3,777	19,404	109,973	87,434	4,378	18,161	109,973
1977	81,172	3,385	20,361	104,918	81,694	3,999	19,225	104,918
1978	79,581	3,279	20,098	102,958	80,142	3,818	18,998	102,958

MARITAL STATUS AT MARRIAGE—*continued*

Period	*Grooms*				*Brides*			
	Bachelors	*Widowers*	*Divorced*	*Total bride-grooms*	*Spinsters*	*Widows*	*Divorced*	*Total brides*
				MEDIAN AGES				
Annual averages—								
1956–60	24.73	56.50	39.25	25.37	21.57	47.61	35.44	21.99
1961–65	24.16	56.60	40.41	24.69	21.32	49.25	36.63	21.67
1966–70	23.54	56.69	39.75	23.94	21.19	50.05	36.08	21.50
1971–75	23.33	57.78	37.25	23.86	20.99	51.13	33.04	21.43
Annual totals—								
1973	23.31	58.06	36.97	23.85	20.97	51.31	r33.18	21.41
1974	23.28	58.13	36.75	23.83	20.92	51.21	33.02	21.37
1975	23.37	57.99	36.40	24.06	20.97	51.35	32.82	21.55
1976	23.62	57.86	36.56	24.89	21.23	51.19	32.58	22.24
1977	23.76	58.43	35.92	25.17	21.35	50.88	32.24	22.48
1978	23.94	58.54	35.95	25.41	21.55	51.81	32.37	22.71

AGE AT MARRIAGE

Period	*Age* *Under 20*	*20–24*	*25–29*	*30–34*	*35–39*	*40–44*	*45–49*	*50 and over*	*Total*
				GROOM					
Annual averages—									
1956–60	3,320	31,620	19,721	8,245	3,630	2,139	1,606	3,573	73,854
1961–65	5,278	38,845	20,344	7,495	3,799	2,154	1,498	3,837	83,250
1966–70	7,917	55,824	23,398	7,008	3,544	2,473	1,763	4,258	106,185
1971–75	8,427	59,058	24,374	7,408	3,425	2,376	1,970	4,765	111,802
Annual totals—									
1973	8,383	59,413	24,800	7,428	3,375	2,373	2,030	4,898	112,700
1974	8,472	58,059	24,415	7,408	3,356	2,268	1,943	4,752	110,673
1975	7,399	52,512	23,510	7,674	3,685	2,352	1,998	4,843	103,973
1976	6,302	49,614	25,659	9,776	5,198	3,450	3,057	6,917	109,973
1977	5,242	46,059	24,908	10,750	5,216	3,399	2,915	6,429	104,918
1978	4,592	44,011	25,337	11,229	5,451	3,447	2,691	6,200	102,958
				BRIDE					
Annual averages—									
1956–60	18,568	33,626	9,209	4,325	2,647	1,753	1,373	2,353	73,854
1961–65	23,454	39,370	8,760	3,553	2,416	1,715	1,367	2,616	83,250
1966–70	30,475	53,356	10,334	3,521	2,143	1,764	1,545	3,047	106,185
1971–75	34,319	51,846	12,363	4,280	2,279	1,733	1,621	3,362	111,802
Annual totals—									
1973	34,679	51,794	12,716	4,393	2,238	1,743	1,653	3,484	112,700
1974	34,753	50,162	12,530	4,397	2,252	1,665	1,582	3,332	110,673
1975	31,483	45,872	12,581	4,742	2,521	1,752	1,642	3,380	103,973
1976	28,063	45,891	15,755	6,866	3,892	2,641	2,356	4,509	109,973
1977	24,827	44,208	15,692	7,360	3,945	2,519	2,229	4,138	104,918
1978	22,290	44,094	16,114	7,810	4,026	2,525	2,121	3,978	102,958

Marriage rates of the marriageable population provide a measure of changing marriage patterns. Marriage rates have been calculated for the three years around the census per thousand single, widowed and divorced males, females and persons.

The rates for 1975–77 were 64.86 for males, 61.92 for females, and 63.36 for persons.

The proportion of all marriages celebrated by civil officers rose to 34.4 per cent of all marriages registered in 1978. This proportion has nearly doubled since 1973.

MARRIAGE RATES OF MARRIAGEABLE POPULATION

	Per thousand single, widowed and divorced, aged 15 and over			*Per thousand persons*	
Censal period	*Males rate*	*Females rate*	*Persons rate*	*Rate*	*Index*
1880–82	39.38	63.56	48.63	7.62	100
1890–92	36.50	35.50	44.04	7.28	96
1900–02	37.32	48.39	42.14	7.27	95
1910–12	45.80	55.33	50.12	8.74	115
1920–22	54.00	58.08	55.97	8.75	115
1932–34	41.70	44.13	42.88	7.12	93
1946–48	71.89	70.60	71.24	10.15	133
1953–55	64.20	66.46	65.32	7.92	104
1960–62	61.50	63.07	62.27	7.34	96
1965–67	68.06	68.04	68.05	8.32	109
1970–72	70.34	67.11	68.69	9.09	119
1975–77	64.86	61.92	63.36	7.84	103

Divorce

The *Matrimonial Causes Act* 1959–66 provided for dissolution of marriage on one or more of 14 grounds. It also provided for nullity of marriage and for judicial separation. This Act, which came into operation in 1961, replaced separate State and Territory legislation. The *Family Law Act* 1975, which came into operation on 5 January 1976, provides for a single ground for divorce—irretrievable breakdown of marriage—and for nullity of marriage on the ground that the marriage is void.

Statistics prior to 1976 in the following tables relate to divorces granted under the Matrimonial Causes Act or under previous State or Territory legislation. Statistics for 1976 differentiated between divorces granted under Matrimonial Causes and Family Law legislation. Although Family Law legislation provides for petitions filed before 1976 to be heard under the superseded Matrimonial Causes legislation, statistics of divorces granted after 1976 make no such differentiation.

When comparing the number and rate of decrees granted from year to year it should be borne in mind that the availability of judges to hear petitions lodged can affect the number of decrees granted. A rise in one year may be due wholly or in part to the clearing of a backlog of cases from an earlier year. In addition, changes to legislature, rules or practices may also affect the number of divorce applications.

Following a sharp rise in the number of divorces in 1976, the first year of Family Law legislation, the number dropped by 29 per cent to 45,175 in 1977. However, this number was still 86 per cent higher than the number granted in 1975 under Matrimonial Causes legislation. The preliminary total for 1978 is 40,525.

DIVORCE: DISSOLUTION, NULLITY AND JUDICIAL SEPARATION

Period	*Petitions filed*	*Petitions granted*
Annual averages—		
1956–60	8,310	6,788
1961–65	9,955	7,611
1966–70	13,089	10,738
1971–75	22,704	17,405
Annual totals—		
1973	21,308	16,266
1974	26,855	17,744
1975	28,383	24,307
1976	66,092	63,267
Matrimonial Causes	–	15,743
Family Law	66,092	47,524
1977	41,628	45,175
1978p	40,918	40,525

Duration of marriage, age at marriage and age at divorce

The median duration of marriages dissolved in 1977 was 10.94 years. Of the 45,150 marriages which were dissolved, 46.0 per cent had lasted less than ten years, 31.0 per cent between ten and twenty years and 23.0 per cent more than twenty years.

DISSOLUTION OF MARRIAGE, YEARS MARRIED

Period	Years married 0–4	5–9	10–14	15–19	20–24	25 and over (a)	Total	Median duration of marriage
Annual averages—								
1956–60	486	2,157	1,726	1,075	624	644	6,712	11.74
1961–65	501	1,999	1,747	1,329	926	1,040	7,542	13.56
1966–70	903	2,937	2,146	1,685	1,429	1,581	10,681	13.41
1971–75	1,693	5,478	3,432	2,398	1,930	2,417	17,349	11.92
Annual totals—								
1972	1,568	4,828	3,002	2,222	1,831	2,204	15,655	12.14
1973	1,624	5,209	3,121	2,181	1,793	2,268	16,196	r11.79
1974	1,672	5,612	3,571	2,382	1,941	2,510	17,688	11.80
1975	2,401	7,861	4,873	3,353	2,481	3,288	24,257	r11.60
1976	9,791	19,108	11,421	7,917	6,200	8,793	63,230	10.97
1977	7,802	12,960	8,383	5,630	4,374	6,001	45,150	10.94

(*a*) Includes 2 not stated 1974, 1 not stated 1975, 3 not stated 1976, 2 not stated 1977.

In 1977, the median age at marriage of divorcing husbands was 23.33 years and of wives 20.71 years. Of husbands, 11.67 per cent had been aged under 20 at marriage and 53.62 per cent aged 20–24; of wives 40.70 per cent had been aged under age 20 and 41.96 per cent between 20–24.

DISSOLUTION OF MARRIAGE, AGE AT MARRIAGE

Period	Age at marriage (years) Under 20	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60 and over	Not stated	Total dissolutions	Median age
HUSBAND													
Annual averages—													
1961–65	491	3,521	1,983	753	363	187	101	56	29	26	32	7,542	24.64
1966–70	946	5,271	2,567	932	448	238	129	73	37	37	3	10,681	24.17
1971–75	1,856	9,354	3,686	1,210	552	292	174	94	51	46	34	17,349	23.46
Annual totals—													
1972	1,591	8,415	3,428	1,144	472	276	143	99	49	37	1	15,655	23.53
1973	1,667	8,717	3,416	1,132	538	275	156	92	48	49	106	16,196	23.44
1974	1,899	9,581	3,758	1,248	555	274	167	81	42	39	44	17,688	23.38
1975	2,816	13,326	4,924	1,528	724	396	262	119	79	66	17	24,257	23.28
1976	7,130	34,036	12,872	4,257	2,038	1,195	678	391	263	235	135	63,230	23.35
1977	5,268	24,209	9,328	3,041	1,380	755	471	299	157	178	64	45,150	23.32
WIFE													
Annual averages—													
1961–65	2,347	3,265	1,026	430	218	112	56	29	15	10	34	7,542	22.15
1966–70	3,781	4,614	1,231	477	263	149	80	42	23	18	3	10,681	21.69
1971–75	6,662	7,710	1,630	592	317	185	108	58	27	24	35	17,349	20.89
Annual totals—													
1972	5,968	6,959	1,522	551	307	151	99	50	19	24	5	15,655	20.90
1973	6,111	7,253	1,493	552	302	180	102	51	26	23	103	16,196	20.91
1974	6,734	8,025	1,614	574	322	196	81	49	33	17	43	17,688	20.88
1975	9,569	10,698	2,199	792	388	265	162	85	36	42	21	24,257	20.77
1976	24,632	27,354	5,906	2,148	1,210	728	504	279	166	124	179	63,230	20.99
1977	18,377	18,944	4,233	1,514	835	496	303	180	83	111	74	45,150	20.71

At time of divorce, the median age of husbands was 36.1 years and of wives 33.0 years. A total of 26.8 per cent of husbands and 37.9 per cent of wives were aged under 30 years when the marriage was dissolved.

Children of the marriage

For the years to which the Matrimonial Causes Act applied, children of the marriage were defined as living children under the age of 21 at the time of the petition. Under previous legislation there were differences between States. The Family Law Act defines them as children of the marriage if they were under the age of 18 at the time of application. In 1977, of the dissolutions granted under the Family Law Act, no children were involved in 36 per cent of the dissolutions, while 23 per cent of the dissolutions involved 1 child, 24 per cent 2 children and 16 per cent 3 or more children.

DISSOLUTION OF MARRIAGE, NUMBER OF CHILDREN

	Number of children to the marriage								
Period	*0*	*1*	*2*	*3*	*4*	*5 and over*	*Total dissolutions*	*Total children*	*Average number of children*
Annual averages—									
1956–60	2,318	1,810	1,466	657	278	190	6,720	8,946	1.33
1961–65	2,834	1,950	1,611	753	279	143	7,568	9,347	1.24
1966–70	3,628	2,656	2,428	1,212	497	261	10,681	14,588	1.37
1971–75	5,628	4,062	4,200	2,147	874	438	17,349	24,840	1.43
Annual totals—									
1972	5,198	3,690	3,669	1,885	817	396	15,655	22,172	1.42
1973	5,245	3,834	3,894	2,025	818	380	16,196	23,078	1.42
1974	5,615	4,138	4,431	2,194	863	447	17,688	25,505	1.44
1975	7,870	5,467	6,031	3,029	1,254	606	24,257	34,992	1.44
1976	23,606	14,751	14,422	6,761	2,542	1,148	63,230	73,645	r1.16
1977	16,381	10,473	11,005	4,857	1,679	755	45,150	57,878	1.28

INTERNATIONAL MOVEMENTS

Statistics of overseas arrivals and departures are compiled from incoming and outgoing passenger cards which are collected from all travellers under the *Migration Act* 1958. Earlier statistics were obtained from passenger lists required under various Acts.

Since 1924, overseas travellers have been classified into two principal categories which distinguish movements for short terms from movements for longer periods (including permanent movements). Revised questions for travellers were introduced in 1958 and again in 1974. The 1958 revision enabled the separation, after 1959, of permanent from other long-term movements and also the identification of former settlers departing. The 1974 revisions improved the classification without change of principle. The principal categories of overseas movement are:

Permanent—consists of persons arriving with the stated intention of settling permanently in Australia (settlers), and Australian residents (including former settlers) departing with the stated intention of residing permanently abroad. Before 1974, former settlers were not so classified unless they had spent at least 12 months in Australia.

Long-term—consists of overseas visitors arriving and Australian residents departing with the stated intention of staying in Australia or abroad respectively for 12 months or more; and visitors departing and residents returning who have stayed in Australia or abroad respectively for 12 months or more. Until 1974, Australian residents returning were classified as long-term only if their time spent abroad included a period of 12 months in any one country. Their classification is now governed solely by their total absence from Australia.

Short-term—consists of overseas visitors arriving and Australian residents departing whose intended or actual period of stay in Australia or abroad respectively is less than twelve months.

The classification of overseas movements is based on statements made by the traveller on arrival in or departure from Australia. The statistics represent the travellers' intentions at the time of arrival or departure; travellers may subsequently change their intentions, and this must be borne in mind in interpreting the statistics.

A comparison of overseas arrivals and departures in 1978 with those in 1950 indicates a present predominance of tourists, thereby also accounting for the great increase in the volume of travel, now mostly by air. In 1950 there were 250,404 arrivals and 97,899 departures, compared with 1,814,822 arrivals and 1,762,480 departures in 1978. Total arrivals remained at the 1950 levels until the early 1960s and total departures increased only slowly. In 1950, short-term movement accounted for 30.3 per cent of arrivals and 78.7 per cent of departures. The percentages had increased to 91.5 per cent and 94.1 per cent respectively in 1978. An upsurge of international tourism, particularly by Australian residents, occurred in the 1970s. The volume of sea travel has changed little over the period (the figures exclude pleasure cruises in the south west Pacific beginning and ending in Australia), so that in 1978 only 1.5 per cent of arrivals and departures had travelled by ship. Net gain, i.e. the excess of total arrivals over total departures, until recently provided a satisfactory measure of the population gain from international migration. In recent years, however, distortions arising from seasonality of short-term arrivals and departures have become very large. For the purpose of estimating the population of Australia and the States and Territories, therefore, the migration components of population growth has been measured since 1 July 1971 by reference to permanent and long-term movements only.

OVERSEAS ARRIVALS AND DEPARTURES: AUSTRALIA 1956-1978(*a*)

ARRIVALS

	Permanent and long-term movement				*Short-term movement*				
	Per-manent	*Long-term*		*Total permanent and long-term arrivals*		*Overseas visitors arriving*			
Period	*Settlers arriving*	*Australian residents returning*	*Overseas visitors arriving*		*Australian residents returning*	*In transit*	*Other*	*Total*	*Total arrivals*
Annual averages—									
1956-60	n.a.	n.a.	n.a.	123,153	61,922	16,841	50,903	67,744	252,819
1961-65	115,198	22,258	14,770	152,226	117,041	28,685	102,776	131,461	400,727
1966-70	160,813	36,148	24,481	221,442	259,700	41,476	255,800	297,275	778,417
1971-75	109,687	57,751	26,254	193,692	631,446	74,356	401,569	475,925	1,301,063
Annual totals—									
1973	105,003	65,021	27,370	197,394	620,842	73,074	399,050	472,124	1,290,360
1974	121,324	63,320	26,984	211,628	752,218	78,166	454,517	532,683	1,496,529
1975	54,117	58,352	19,858	132,327	880,609	78,222	437,801	516,023	1,528,959
1976	58,317	59,875	23,312	141,504	968,265	66,462	465,406	531,868	1,641,636
1977	75,640	57,700	27,472	160,813	973,677	53,032	510,249	563,281	1,697,771
1978	68,419	57,938	28,389	154,745	1,029,482	57,501	573,093	630,594	1,814,822

DEPARTURES

	Permanent and long-term movement						*Short-term movement*		
	Permanent			*Long-term*		*Total permanent and long-term departures*			
Period	*Former settlers departing*	*Other residents departing*	*Total permanent departures*	*Australian residents departing*	*Overseas visitors departing*		*Australian residents departing*	*Overseas visitors departing*	*Total departures*
Annual averages—									
1956-60	n.a.	n.a.	n.a.	n.a.	n.a.	42,161	61,224	68,430	171,815
1961-65	9,698	6,798	16,496	37,905	12,719	67,120	118,624	135,006	320,749
1966-70	23,191	8,752	31,942	56,219	14,349	102,511	258,824	308,321	669,656
1971-75	26,622	12,032	38,654	66,430	22,984	128,067	647,608	479,015	1,254,690
Annual totals—									
1973	30,325	13,105	43,430	64,964	21,506	129,900	638,141	481,901	1,249,942
1974	21,849	11,902	33,751	66,228	24,401	124,380	769,650	515,378	1,409,408
1975	18,315	10,769	29,084	66,405	23,327	118,816	911,815	506,454	1,537,084
1976	16,815	9,918	26,733	68,526	20,631	115,890	973,799	512,468	1,602,156
1977	14,171	8,591	22,762	64,091	19,182	106,035	971,253	540,943	1,618,230
1978	14,027	10,933	24,960	58,519	19,643	103,122	1,062,234	597,123	1,762,480

EXCESS OF ARRIVALS OVER DEPARTURES

	Permanent and long-term movement							*Short-term movement (a)*			
	Permanent			*Long-term*				*Short-term*			
Period	*Settlers*	*Others*	*Total*	*Australian residents*	*Overseas visitors*	*Total long-term*	*Total permanent and long-term*	*Australian residents*	*Overseas visitors*	*Total short-term*	*Total*
Annual averages—											
1956-60	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	80,992	699	-686	12	81,004
1961-65	105,500	-6,798	98,702	-15,648	2,051	-13,597	85,106	-1,583	-3,544	-5,127	79,978
1966-70	137,622	-8,752	128,870	-20,071	10,132	-9,939	118,931	876	-11,046	-10,169	108,762
1971-75	83,065	-12,032	71,034	-8,679	3,271	-5,408	65,625	-16,163	-3,090	-19,253	46,373
Annual totals—											
1973	74,678	-13,105	61,573	57	5,864	5,921	67,494	-17,299	-9,777	-27,076	40,418
1974	99,475	-11,902	87,573	-2,908	2,583	-325	87,248	-17,432	17,305	-127	87,121
1975	35,802	-10,769	25,033	-8,053	-3,468	-11,521	13,512	-31,207	9,568	-21,639	-8,126
1976	41,502	-9,918	31,584	-8,653	2,681	-5,972	25,611	-5,534	19,400	13,864	39,480
1977	61,469	-8,591	52,878	-6,391	8,291	1,900	54,778	2,424	22,338	24,762	79,540
1978	54,392	-10,933	43,458	-581	8,746	8,165	51,623	-32,752	33,471	719	52,342

(*a*) Statistics of short-term movements since 1974 are estimates based on sampling.

Migration to Australia

Migration to Australia is regulated by the *Migration Act* 1958–1973 which came into force on 1 June 1959. Any person entering Australia after the commencement of the Act without having been granted an entry permit or who is not within an exempted class is a prohibited immigrant. Exempted persons include diplomatic, and consular representatives of other countries, and seamen and air crew who enter with leave in Australian ports.

Prior to January 1975, citizens of the United Kingdom and Ireland were able to travel to Australia without obtaining any authority to do so; but, with the introduction of a non-discriminatory policy, they are now required to meet the same requirements as all other prospective migrants. Because of reciprocal arrangements on travel between the Australian and New Zealand governments, New Zealanders may come to Australia and Australian citizens may enter New Zealand as they wish.

Immigration has contributed substantially to Australia's post war population growth. In the post-war years, some 3.5 million migrants have arrived, of which an estimated 80 per cent settled. They and those of their children born in Australia have been responsible for about half of Australia's post war population growth.

In 1978, settler arrivals were 68,419 having risen from a post-war lowest level of 54,117 in 1975. The highest annual post-war level was 185,325 in 1970. The composition of the settler intake (in terms of source countries) has also altered markedly, as the table following shows.

SETTLERS ARRIVING BY COUNTRY OF LAST RESIDENCE

	Number		*Per cent*	
	1970	*1978*	*1970*	*1978*
South Africa	1,751	2,878	0.9	4.2
Other Africa	3,799	1,237	2.1	1.8
Total Africa	*5,550*	*4,115*	*3.0*	*6.0*
Canada	2,080	840	1.1	1.2
U.S.A.	4,909	1,234	2.7	1.8
Other America	4,262	2,497	2.3	3.7
Total America	*11,251*	*4,571*	*6.1*	*6.7*
India, Pakistan and Sri Lanka	4,119	1,036	2.2	1.5
Lebanon	3,974	1,502	2.1	2.3
Malaysia and Singapore	1,501	7,892	0.8	11.5
Turkey	4,399	903	2.4	1.3
Other Asia	4,014	10,427	2.2	15.2
Total Asia	*18,007*	*21,760*	*9.7*	*31.8*
U.K. and Ireland	77,522	16,754	41.8	24.5
Austria	12,790	362	6.9	0.5
Germany	5,106	982	2.8	1.4
Greece	10,098	1,053	5.4	1.6
Italy	8,843	2,007	4.8	2.9
Yugoslavia	15,717	1,443	8.5	2.1
Other Europe	14,102	3,539	7.6	5.2
Total Europe	*144,178*	*26,140*	*77.8*	*38.2*
New Zealand	5,532	10,416	3.0	15.2
Other Oceania	807	1,401	0.4	2.1
Total Oceania	*6,339*	*11,817*	*3.4*	*17.3*
Not Stated	..	16	..	..
Total	**185,325**	**68,419**	**100.0**	**100.0**

Each year Australia loses a proportion of its previous migrant intakes. Additionally, partly as a result of the high international mobility of professional and skilled workers, substantial numbers of Australians take up job opportunities overseas.

Eligibility for entry for settlement is restricted to certain family members and fiancees and fiances of Australian residents, to others who possess skills, qualifications, personal or other qualities which represent an economic, social or cultural gain to Australia, and to refugees.

The grant of passage assistance is restricted to refugees and skilled workers in demand in Australia.

SETTLER ARRIVALS

Period	Assisted	Unassisted	Total
Annual averages—			
1961–65	67,426	47,772	115,198
1966–70	107,496	53,317	160,813
1971–75	58,176	51,511	109,687
Annual totals—			
1973	49,822	55,181	105,003
1974	52,194	69,130	121,324
1975	21,345	32,772	54,117
1976	15,840	42,481	58,321
1977	17,532	58,108	75,640
1978	19,549	48,870	68,419

SETTLER ARRIVALS BY AGE

	Age in years						
Period	0–4	5–14	15–24	25–44	45–64	65 and over	All ages
			MALES				
Annual averages—							
1961–65	6,831	10,532	15,379	21,776	4,535	919	59,972
1966–70	10,542	15,434	21,184	32,272	5,809	1,243	86,484
1971–75	7,411	10,009	12,878	20,326	3,921	1,247	55,792
Annual totals—							
1973	7,455	9,227	12,350	19,169	3,859	1,207	53,267
1974	8,149	11,048	13,397	23,452	4,317	1,402	61,765
1975	4,124	4,968	4,011	8,673	1,735	1,063	24,575
1976	3,996	5,543	5,339	9,556	2,105	1,183	27,722
1977	5,205	7,221	8,009	12,410	3,461	1,344	37,650
1978	4,577	6,768	7,463	11,351	2,897	1,378	34,434
			FEMALES				
Annual averages—							
1961–65	6,333	9,772	14,248	18,262	5,135	1,476	55,226
1966–70	9,909	14,435	17,751	24,132	6,240	1,861	74,328
1971–75	6,952	9,301	13,685	17,445	4,787	1,725	53,895
Annual totals—							
1973	6,983	8,729	13,123	16,449	4,728	1,724	51,736
1974	7,527	9,988	14,940	20,053	5,250	1,801	59,559
1975	3,908	4,671	6,990	9,676	2,807	1,491	29,544
1976	4,100	5,314	6,537	9,830	3,280	1,538	30,599
1977	4,821	6,597	8,070	12,104	4,595	1,803	37,990
1978	4,062	5,651	7,578	11,202	3,738	1,754	33,985
			PERSONS				
Annual averages—							
1961–65	13,164	20,305	29,627	40,038	9,670	2,395	115,198
1966–70	20,451	29,869	38,935	56,405	12,049	3,104	160,813
1971–75	14,363	19,311	26,563	37,771	8,708	2,972	109,687
Annual totals—							
1973	14,438	17,956	25,473	35,618	8,587	2,931	105,003
1974	15,676	21,036	28,337	43,505	9,567	3,203	121,324
1975	8,032	9,639	11,001	18,350	4,542	2,554	54,117
1976	8,096	10,857	11,876	19,386	5,385	2,721	58,321
1977	10,026	13,818	16,075	24,518	8,056	3,147	75,640
1978	8,639	12,419	15,041	22,553	6,635	3,132	68,419

SETTLER ARRIVALS BY MARITAL STATUS

Period	*Never married*				
	Under 15 years	*15 years and over*	*Married*	*Widowed and divorced*	*Total*
MALES					
Annual averages—					
1961–65	17,364	20,190	21,800	618	59,972
1966–70	25,976	25,742	33,668	1,098	86,484
1971–75	17,420	14,750	22,595	1,027	55,792
Annual totals—					
1973	16,682	14,067	21,374	1,144	53,267
1974	19,197	15,508	25,829	1,231	61,765
1975	9,092	4,664	10,377	442	24,575
1976	9,541	6,710	10,888	581	27,720
1977	12,426	9,631	14,826	767	37,650
1978	11,345	8,451	13,808	830	34,434
FEMALES					
Annual averages—					
1961–65	16,105	13,245	23,377	2,500	55,226
1966–70	24,344	12,530	34,125	3,330	74,328
1971–75	16,246	9,752	25,055	2,842	53,895
Annual totals—					
1973	15,712	8,916	23,970	3,138	51,736
1974	17,498	10,863	28,183	3,015	59,559
1975	8,559	5,521	13,614	1,849	29,544
1976	9,361	5,473	13,886	1,877	30,597
1977	11,378	6,319	17,874	2,419	37,990
1978	9,700	5,955	15,950	2,380	33,985
PERSONS					
Annual averages—					
1961–65	33,468	33,435	45,177	3,118	115,198
1966–70	50,320	38,272	67,793	4,427	160,813
1971–75	33,666	24,502	47,651	3,869	109,687
Annual totals—					
1973	32,394	22,983	45,344	4,282	105,003
1974	36,695	26,371	54,012	4,246	121,324
1975	17,651	10,185	23,991	2,290	54,117
1976	18,902	12,182	24,779	2,458	58,321
1977	23,804	15,950	32,700	3,186	75,640
1978	21,045	14,406	29,758	3,210	68,419

Refugees

Australia has opened its door to many refugees. Of almost 1 million people settled by the International Refugee Organisation between 1947 and 1952, Australia accepted 170,700, a total exceeded only by the United States of America. Since the early 1950s, crises have occurred which have increased the complexity of the world refugee problem, including the Hungarian uprising of 1956, its counterpart in Czechoslovakia in 1968, the continuing flow of refugees from Yugoslavia up to the late 1960s and early 1970s, the expulsion of Asians from Uganda in 1972, the events following the change of government in Chile in 1973, the fighting in Cyprus and the Lebanon, and the end of the war in Vietnam, Laos and Cambodia in 1975. Australia continues to offer resettlement opportunities to refugees from many parts of the world, in particular from South East Asia. Between 1975 and 1979 Australia has accepted 29,140 Indo-chinese refugees, of a total of an estimated 400,000 refugees and displaced persons accepted from all parts of the world since 1945.

REFUGEE ARRIVALS

Period	*Assisted*	*Other*	*Total*
Annual average—			
1956–60	5,904	n.a.	n.a.
1961–65	1,799	n.a.	n.a.
1966–70	7,446	n.a.	n.a.
1971–75	2,773	7,776	10,549
Annual totals—			
1973	1,473	7,241	8,714
1974	1,686	7,013	8,699
1975	853	3,302	4,155
1976	865	3,231	4,096
1977	2,202	7,272	9,474
1978	8,790	1,682	10,472

Citizenship

The grant of citizenship is controlled by the *Australian Citizenship Act* 1948. Citizenship may be acquired by birth in Australia, by birth abroad to Australian parents, or by grant of citizenship to persons resident in Australia under conditions prescribed in the Act.

An amendment to the legislation in 1973 meant that all persons are now eligible for the grant of Australian citizenship provided that they have lived in Australia for at least three years, are of good character, have an adequate knowledge of English and of the responsibilities and privileges of citizenship, and declare that their intention is to reside permanently in Australia.

PERSONS GRANTED AUSTRALIAN CITIZENSHIP

Period	*Number*
Annual averages—	
1956–60	44,412
1961–65	43,823
1966–70	40,934
1971–75	61,182
Annual totals—	
1973	57,102
1974	87,549
1975	84,059
1976	118,189
1977	70,706
1978	65,094

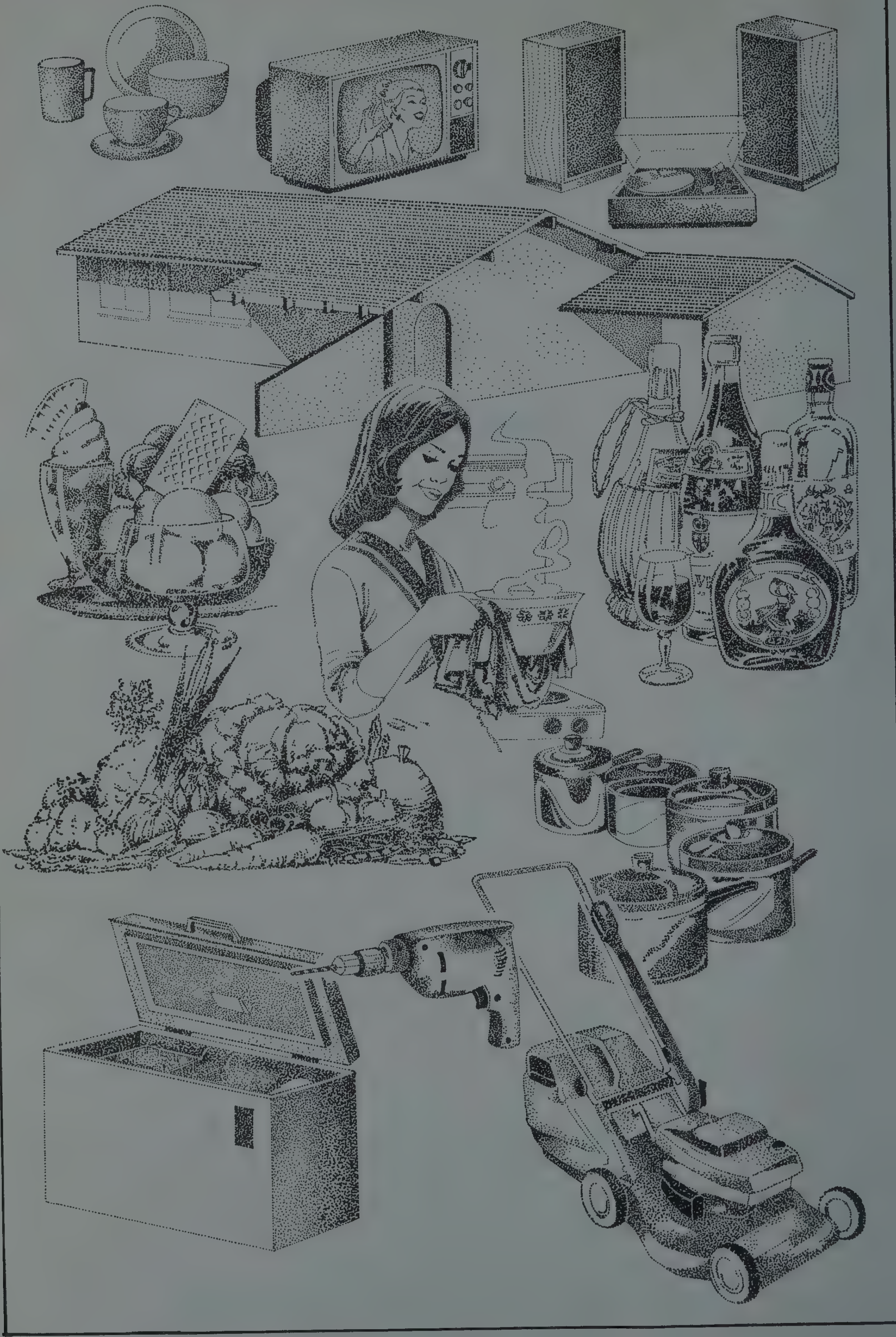
Sources

Comprehensive statistics on aspects of demography are in the following publications of the Australian Bureau of Statistics:

1976 Census publications including: *Population of States and Territories Adjusted for Under-Enumeration as Shown by Post-Enumeration Survey* (2212.0); *Summary of Population and Dwelling Characteristics: States, Territories and Australia* (2409.0 to 2417.0); *Characteristics of the Population and Dwellings: States, Territories and Australia* (2418.0 to 2426.0); *Characteristics of the Population and Dwellings in Local Government Areas* (2427.0 to 2434.0).
Australian Life Tables (3305.0).
Birth Expectations of Married Women (3215.0).
Births, Australia (3301.0).
Deaths, Australia (3302.0).
Australian Demographic Statistics Quarterly (3101.0).
Divorces, Australia (3307.0).
Estimated Age Distribution of the Population (3201.0).
Fertility of Australian Marriages (R Series, Demog 2)—Occasional Paper
Internal Migration (3408.0).
Internal Migration in Australia, D. T. Rowland, Census Monograph, Australian Bureau of Statistics and the Department of Demography, Australian National University, 1979 (3409.0).
Marriages, Australia (3306.0).
Overseas Arrivals and Departures, Australia (3401.0, 3402.0, 3404.0).
Perinatal Deaths, Australia (3304.0).
Projections of the Population of Australia (3204.0).
Projections of the Population of the States and Territories of Australia (3214.0).

CHAPTER 7

PRICES



CHAPTER 7

PRICES

RETAIL PRICES AND PRICE INDEXES

Retail prices of food and groceries and average rentals of houses have been collected by the Commonwealth Statistician for the years extending back to 1901 and, in some cases, by the Statisticians of various States for earlier years.

Retail prices of a more extensive range of commodities (including clothing) and certain services in common demand have been ascertained at frequent and regular intervals since 1923. (Comparable information was ascertained for the month of November in each year from 1914 to 1922.) The range of items for which retail prices data is obtained was considerably expanded in 1948 and in later years. Average retail prices of certain food and grocery items in the relevant periods were published in the annual *Labour Report* (now discontinued).

An explanation of the nature and purposes of retail price indexes is given in the various editions of the annual *Labour Report*, together with further particulars of indexes current at the time. The current retail price index, the Consumer Price Index, was published for the first time in August 1960 and was compiled retrospectively to the September quarter 1948. A description of the Consumer Price Index (CPI) is given below. For a more complete description of the CPI, readers are referred to a booklet entitled *A Guide to the Consumer Price Index* which is available from the Australian Bureau of Statistics (ABS) on request.

The Consumer Price Index

Introduction

The Consumer Price Index measures quarterly changes in the price of a 'basket' of goods and services which account for a high proportion of expenditures by metropolitan wage and salary earner households. This 'basket' covers a wide range of goods and services, arranged in the following groups: Food; Clothing; Housing; Household equipment and operation; Transportation; Tobacco and alcohol; Health and personal care; and Recreation. Each group is, in turn, divided into sub-groups.

Index numbers at the *Group* and *All Groups* levels are published each quarter for each State capital city and Canberra, for the weighted average of six State capital cities and for the weighted average of seven capital cities. *Sub-group index numbers* are also published for the weighted average of six State capital cities.

Items in the Food Group of the CPI are priced each month and the Food Group Index is compiled and published monthly. (Indexes for other groups are not compiled monthly.)

As from August 1978 monthly indexes for the Food Group and its sub-groups have been published for Darwin *(see Consumer Price Index, Monthly Food Group Index, Darwin (6413.0))*. Indexes have been calculated retrospectively to February 1975 for the Food Group and some sub-groups. The Food Group is the only Group for which data are collected and compiled in respect of Darwin.

Index population

The CPI measures price changes affecting a high proportion of *metropolitan employee households*. *Employee households* are defined as those households which obtain at least three-quarters of their total income from wages and salaries but excluding the top 10 per cent (in terms of income) of such households. *Metropolitan* means the State Capital cities and Canberra.

Weighting pattern

There are 105 expenditure classes (i.e. groupings of like items) within the current CPI and each expenditure class has its own weight, or measure of relative importance. In calculating the index, price changes for the various expenditure classes are combined using these weights.

Changes in the weighting pattern have been made at approximately five-yearly intervals to take account of changes in household spending patterns. The CPI, in fact, comprises nine series of price indexes which have been linked to form a continuous series. The ninth series (i.e. the current series) was introduced as from the September quarter 1976 and its weighting pattern is based on estimated expenditures in 1974–75 obtained from the first household expenditure survey conducted by the ABS. Details of the weighting pattern are published in the booklet *A Guide to the Consumer Price Index.*

The CPI 'basket' of goods and services covers items which are considered representative of metropolitan household spending habits and whose prices can be associated with an identifiable and specific quantity of a commodity or service. For instance, price changes for a given quantity and quality of bread or refrigerator can be measured and included in the CPI. Income taxes and personal savings, on the other hand, do not form part of the CPI because they cannot be clearly associated with the purchase of a specific quantity of a good or service.

Price collection

Since the CPI is designed to measure the impact of changing prices on metropolitan wage and salary earner households, price movements are monitored in the kinds of retail outlets or other establishments where such households would normally purchase goods and services. This involves collecting prices from many sources including supermarkets, department stores, footwear stores, restaurants, garages, dental surgeries and hairdressers. Items such as bus, rail and air fares, electricity and gas charges, telephone charges and local authority rates are collected from the appropriate authorities. Information on rents is obtained from property management companies. In total, around 80,000 separate price quotations are collected each quarter.

Food items are priced at the middle of each month except in the case of some fresh items (fruit, vegetables and fish) where prices are collected more frequently and averaged to obtain monthly prices. Most of the other CPI items are priced quarterly, usually at the middle of the mid-month of the quarter (February, May, August and November). However, to smooth out collection workloads, some items are collected during the first month of each quarter. Some items, such as local authority rates, need to be priced only once a year.

The prices used in the CPI are those that any member of the public would have to pay on the pricing day to purchase the specified good or service. Any sales or excise taxes which the consumer must pay when purchasing specific items are included in the CPI price. Sale prices, discount prices and 'specials' are reflected in the CPI so long as the items concerned are of normal quality (i.e. not damaged or shop soiled) and are offered for sale in reasonable quantities. To ensure that the price movements reflect the experience of the bulk of the metropolitan population, the brands and the varieties of the items which are priced are generally those which sell in greatest volume.

Changes in quality

The CPI aims to measure the price change of a constant basket of goods and services over time. For this reason, efforts are made to ensure that identical or equivalent items are priced in successive time periods. This involves evaluating changes in the quality of goods and services included in the index, and removing the effects of such changes so that the index reflects only the price change.

Periodic revision of the CPI

The CPI is periodically revised in order to ensure it continues to reflect current conditions. CPI revisions have usually been carried out at approximately five-yearly intervals. Following each revision the new list of items and weights (i.e. the new CPI basket) is linked to the previous series to form one continuous series. The process of linking ensures that the continuous series reflects only price variations and not differences in costs of the old and new baskets.

Earlier CPI series

The index has been compiled for each quarter from the September quarter 1948. The above description of the CPI refers to the ninth series which was introduced as from the September quarter 1976. A description of earlier CPI series is contained in the *Labour Report* No. 58, 1973, and in previous issues of the Year Book.

CONSUMER PRICE INDEX: ALL GROUPS INDEX SIX STATE CAPITAL CITIES AND CANBERRA

(*Base of each index: Year* 1966-67 = 100.0) (*a*)

Period	*Weighted average of six State capital cities*	*Sydney*	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Canberra*	*Weighted average of seven capital cities*
Year—									
1973-74 . . .	146.6	151.3	144.0	146.1	143.9	140.6	142.6	142.8	146.6
1974-75 . . .	171.1	176.1	167.9	168.7	169.7	166.1	166.7	164.9	171.0
1975-76 . . .	193.3	199.0	189.5	190.9	190.5	189.6	190.0	187.3	193.3
1976-77 . . .	220.0	223.4	216.6	218.0	220.1	219.4	217.7	212.9	219.9
1977-78 . . .	241.0	243.2	238.2	238.4	241.8	243.1	239.1	232.3	240.9
1978-79 . . .	260.7	264.4	256.8	258.0	259.7	262.8	257.7	251.1	260.6
Quarter—									
1977-78—									
March . . .	242.7	245.1	239.2	240.6	243.1	245.3	240.8	234.2	242.5
June . . .	247.7	249.8	245.2	245.2	247.6	249.8	245.5	238.1	247.6
1978-79—									
September .	252.5	255.0	249.6	249.8	252.6	254.7	249.3	242.7	252.4
December .	258.2	261.6	253.9	257.6	256.9	260.8	254.5	248.2	258.0
March . . .	262.6	266.7	258.4	259.3	261.3	264.3	260.0	252.8	262.4
June . . .	269.6	274.3	265.3	265.2	267.9	271.4	267.0	260.5	269.4

(*a*) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

CONSUMER PRICE INDEX: GROUP INDEXES WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES

(*Base of each index: Year* 1966-67 = 100.0 unless otherwise noted)

Period	*Food*	*Clothing*	*Housing*	*Household equipment and operation*	*Transportation*	*Tobacco and alcohol*	*Health and personal care(a)*	*Recreation (b)*	*All groups*
Year—									
1973-74 . .	149.5	143.0	157.8	129.6	144.9	145.2	149.0	(*c*)	146.6
1974-75 . .	164.0	173.0	187.4	153.8	173.0	170.4	186.5	(*c*)	171.1
1975-76 . .	180.2	201.0	221.1	178.3	203.8	211.1	151.6	(*c*)	193.3
1976-77 . .	201.2	232.5	251.8	196.3	221.9	229.8	265.8	104.1	220.0
1977-78 . .	223.2	257.4	274.6	212.6	240.1	240.0	318.3	113.4	241.0
1978-79 . .	248.8	276.3	292.5	225.9	262.7	277.4	301.7	120.7	260.7
Quarter—									
1977-78—									
March . .	223.5	259.3	276.9	213.8	243.0	241.9	317.8	114.9	242.7
June . . .	229.8	265.6	281.7	218.3	245.9	242.8	337.3	116.0	247.7
1978-79—									
September .	236.6	269.0	285.2	221.1	251.2	245.3	350.2	117.6	252.5
December .	244.0	274.8	290.5	224.2	259.7	287.5	281.9	119.5	258.2
March . .	251.3	276.6	294.3	227.8	265.8	286.5	285.4	121.7	262.6
June . . .	263.4	284.8	299.9	230.5	274.1	290.4	289.3	124.0	269.6

(*a*) *Base:* December quarter 1968 = 100.0 (*b*) *Base:* September quarter 1976 = 100.0. (*c*) New grouping not compiled for quarters prior to September quarter 1976.

CONSUMER PRICE INDEX: GROUP INDEXES SIX STATE CAPITAL CITIES AND CANBERRA

(*Base of each index: Year* 1966–67 = 100.0 unless otherwise noted) (*a*)

Year	*Sydney*	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Canberra*
FOOD							
1973–74	151.5	148.8	152.5	148.3	141.7	141.4	148.6
1974–75	166.3	161.7	164.8	163.7	160.9	158.6	161.7
1975–76	181.8	177.8	180.8	180.6	180.2	177.5	181.3
1976–77	200.2	198.9	201.7	205.8	205.5	201.5	201.5
1977–78	220.1	220.9	222.6	229.7	235.6	224.3	221.6
1978–79	247.7	245.8	245.7	253.0	260.2	251.3	249.0
CLOTHING							
1973–74	143.6	142.3	142.0	144.2	143.3	142.4	142.4
1974–75	174.1	172.0	171.5	173.8	174.2	171.8	172.3
1975–76	201.0	200.4	200.0	203.6	202.3	200.9	200.9
1976–77	231.9	232.4	230.4	236.5	232.9	232.5	232.4
1977–78	256.4	257.7	254.6	261.2	258.6	257.1	253.7
1978–79	275.1	276.5	272.7	282.1	277.0	277.2	272.4
HOUSING							
1973–74	171.5	148.3	150.3	150.6	149.1	146.9	140.2
1974–75	199.2	180.6	176.4	185.3	174.2	180.9	163.3
1975–76	233.7	214.0	202.9	222.1	209.7	216.4	194.1
1976–77	264.5	242.6	236.0	253.8	244.5	244.9	224.0
1977–78	288.7	263.1	260.9	275.1	269.5	264.6	240.4
1978–79	313.0	276.1	278.5	288.6	282.3	278.1	250.1
HOUSEHOLD EQUIPMENT AND OPERATION							
1973–74	134.8	124.8	130.8	126.3	130.5	132.8	124.3
1974–75	160.8	147.2	156.5	149.2	154.5	156.4	145.0
1975–76	186.5	169.5	181.7	173.1	184.1	183.9	166.1
1976–77	205.5	188.0	197.7	190.0	198.9	201.8	183.9
1977–78	220.7	204.2	213.8	207.0	217.9	222.0	199.2
1978–79	232.2	218.5	228.8	219.6	233.4	235.9	213.4
TRANSPORTATION							
1973–74	154.2	139.0	143.7	141.2	132.5	139.6	139.5
1974–75	184.6	164.4	171.4	171.9	158.2	165.3	166.4
1975–76	220.0	194.1	199.7	196.2	184.9	196.7	196.9
1976–77	231.7	216.8	219.6	215.5	206.2	220.7	216.6
1977–78	248.6	236.7	233.8	234.8	224.9	241.6	236.3
1978–79	273.0	256.9	257.0	257.2	249.5	256.5	256.2
TOBACCO AND ALCOHOL							
1973–74	146.3	146.9	144.1	140.7	139.3	152.7	140.4
1974–75	170.1	173.7	166.3	167.0	167.6	169.4	162.9
1975–76	214.3	214.0	200.9	206.2	206.4	206.3	194.3
1976–77	236.6	229.3	217.4	224.6	226.3	222.0	213.1
1977–78	245.2	241.7	227.5	233.8	237.6	232.2	224.5
1978–79	282.8	277.9	271.6	264.8	277.2	268.4	255.9
HEALTH AND PERSONAL CARE(*b*)							
1973–74	149.5	151.0	142.9	149.6	145.9	141.0	156.7
1974–75	186.8	188.1	175.8	191.3	188.2	174.1	189.8
1975–76	152.3	149.3	164.1	144.0	156.6	138.5	156.9
1976–77	246.8	266.1	296.1	274.7	308.1	250.3	263.3
1977–78	294.7	321.5	353.6	326.4	365.7	302.6	316.8
1978–79	286.0	307.4	315.6	302.3	337.0	292.2	311.0
RECREATION(*c*)							
1976–77	104.4	103.7	104.1	103.8	104.3	103.6	104.3
1977–78	113.5	113.0	114.8	113.5	113.5	110.2	112.9
1978–79	119.7	120.5	123.4	122.6	120.8	118.7	120.3

(*a*) The index numbers are designed to measure movements in retail prices of specified groups of items for each city individually. They measure variations from time to time and not differences in price levels between cities. (*b*) *Base:* December quarter 1968 = 100.0. (*c*) *Base:* September quarter 1976 = 100.0.

Previous retail price indexes

Five series of retail price indexes were compiled by the ABS at various times prior to the introduction of the Consumer Price Index in 1960. These indexes are described in Year Book No. 61.

An index of retail price movements from 1901 onwards has been derived by linking together the following indexes: from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946–47, the 'C' Series Retail Price Index; from 1946–47 to 1948–49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series Index excluding Rent; and from 1948–49 onwards, the Consumer Price Index. The continuous series derived in this way is shown in the table below. As the indexes differ greatly in scope, the resulting series is only a broad indication of long-term trends in retail prices.

RETAIL PRICE INDEX NUMBERS: SIX STATE CAPITAL CITIES COMBINED, 1901 TO 1978

(*Base: Year* 1911 = 100)

Year	*Index number*	*Year*	*Index number*	*Year*	*Index number*
1901	88	1927	166	1953	383
1902	93	1928	167	1954	386
1903	91	1929	171	1955	394
1904	86	1930	162	1956	419
1905	90	1931	145	1957	429
1906	90	1932	138	1958	435
1907	90	1933	133	1959	443
1908	95	1934	136	1960	459
1909	95	1935	138	1961	471
1910	97	1936	141	1962	469
1911	**100**	1937	145	1963	472
1912	110	1938	149	1964	483
1913	110	1939	153	1965	502
1914(*a*)	114	1940	159	1966	517
1915(*a*)	130	1941	167	1967	534
1916(*a*)	132	1942	181	1968	548
1917(*a*)	141	1943	188	1969	564
1918(*a*)	150	1944	187	1970	586
1919(*a*)	170	1945	187	1971	621
1920(*a*)	193	1946	190	1972	658
1921(*a*)	168	1947	198	1973	720
1922(*a*)	162	1948	218	1974	829
1923	166	1949	240	1975	954
1924	164	1950	262	1976	1,083
1925	165	1951	313	1977	1,216
1926	168	1952	367	1978	1,313

(*a*) November

INDEX NUMBERS OF CONSUMER (RETAIL) PRICES IN VARIOUS COUNTRIES ALL GROUP INDEXES(*a*)

(Source: *Monthly Bulletin of Statistics* of the Statistical Office of the United Nations)
(*Base of each index:* Year 1970 = 100)

Period	*Australia (b)*	*Canada*	*Federal Republic of Germany*	*Indonesia (Djakarta)*	*Japan*	*New Zealand*	*United Kingdom*	*United States of America*
1973	123	116	119	146	124	128	128	114
1974	142	129	127	205	154	142	148	127
1975	163	143	135	244	172	163	184	139
1976	185	153	141	292	188	190	215	147
1977	208	165	146	324	204	218	249	156
1978	224	180	150	351	211	244	270	168
Quarter—								
1978—								
March	217	174	149	345	207	235	261	162
June	222	178	151	348	212	241	268	166
Sept	226	183	150	352	213	247	273	170
Dec	231	186	151	360	214	253	277	174
1979—								
March	235	190	154	381	213	259	286	178
June	241	195	156	412	218	271	296	184

(*a*) The items priced and the levels at which they are priced in these indexes vary widely according to the intended purposes of the indexes of the various countries. The index numbers show fluctuations in prices in each country and do not measure relative price levels between countries. (*b*) Consumer Price Index converted to base: 1970 = 100.

Wholesale price indexes

Introduction

The ABS compiles a range of Wholesale Price Indexes relating to materials used and articles produced by defined sectors of the Australian economy. Each index is calculated using fixed weights. In compiling the indexes, prices are collected from representative suppliers, manufacturers or exporters of the goods included in the indexes. Prices are generally collected as at the mid-point of each month except in the case of the *Price Index of Materials Used in Manufacturing Industry* and *Export Price Index,* for which average monthly prices are mainly used.

All indexes are compiled and published monthly. Published index numbers for financial years are simple averages of the relevant monthly index numbers. Annual index numbers for most of the indexes are shown below. Monthly index numbers, together with more detailed information concerning methods used in compiling these indexes, are shown in the monthly bulletins published for each index. Information on the weighting patterns for each index is available from the ABS on request.

Price index of materials used in house building

This index measures changes in prices of selected materials used in the construction of houses. Its composition reflects the usage of materials in houses which were selected as representative for the purpose. Weights are based on the year 1968–69. The reference base of the index is the year 1966–67 = 100.0. Further information concerning the method of compiling the index, as well as more detailed index numbers, is shown in the publications *Price Index of Materials Used in House Building* (6408.0), *Labour Report* No. 58, 1973 and Year Book No. 60.

PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
GROUP INDEX NUMBERS—WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES

(*Base of each index: Year* 1966–67 = 100.0)

	Concrete mix, cement and sand	*Cement products*	*Clay bricks, tiles, etc.*	*Timber, board and joinery*	*Steel products*	*Other metal products*
Value Weight	*5.73%*	*8.10%*	*12.85%*	*36.16%*	*5.86%*	*7.20%*
1973–74	137.5	154.3	146.8	169.1	153.8	146.3
1974–75	165.7	193.1	180.3	203.5	192.1	170.3
1975–76	195.1	227.0	205.1	226.2	229.3	187.1
1976–77	217.8	258.9	227.8	254.1	263.2	207.9
1977–78	239.0	284.6	245.8	275.0	287.7	220.1
1978–79	255.5	303.8	262.2	290.8	307.6	239.7

	Plumbing fixtures, etc.	*Electrical instal-lation materials*	*Installed appli-ances*	*Plaster and plaster products*	*Miscel-laneous materials*	*All groups*
Value weight	*3.74%*	*1.63%*	*5.13%*	*5.64%*	*7.96%*	*100.00%*
1973–74	143.2	146.4	117.7	122.2	135.0	151.3
1974–75	174.5	168.3	146.4	147.8	161.5	183.4
1975–76	201.5	183.5	165.9	167.7	187.9	208.1
1976–77	224.3	201.8	181.9	178.8	210.7	232.9
1977–78	239.1	215.5	193.3	191.8	230.4	252.0
1978–79	244.1	240.0	202.9	204.3	248.2	268.1

PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
ALL GROUPS INDEX NUMBERS—SIX STATE CAPITAL CITIES

(*Base of each index: Year* 1966–67 = 100.0)

	State capital cities(a)						*Weighted average of six State capital cities*
	Sydney	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	
1973–74	158.0	147.8	152.2	157.2	141.8	145.5	151.3
1974–75	189.4	178.4	187.0	195.4	172.4	179.1	183.4
1975–76	211.1	200.1	218.5	222.5	201.9	209.2	208.1
1976–77	234.5	223.6	243.5	250.7	229.8	235.1	232.9
1977–78	254.0	238.6	265.1	270.7	253.4	256.7	252.0
1978–79	272.7	251.4	281.3	292.1	268.2	273.6	268.1

(*a*) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

Price index of materials used in building other than house building

This index measures changes in prices of selected materials used in the construction of buildings other than houses and 'low-rise' flats (the latter being, in general, those up to three storeys high). Weights are based on the year 1966–67. The reference base of the index is the year 1966–67 = 100.0.

Further information concerning the method of compiling the index, as well as more detailed index numbers for each capital city, is shown in the publications *Price Index of Materials Used in Building Other than House Building* (6407.0), *Labour Report* No. 58, 1973 and Year Book No. 60.

PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING GROUP INDEX NUMBERS–WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES

(*Base of each index: Year* 1966–67 = 100.0)

	Concrete mix, cement, sand, etc.	*Cement products*	*Bricks, stone, etc.*	*Timber, board and joinery*	*Steel and iron products*	*Aluminium products*
Value weight	*10.41%*	*3.64%*	*5.28%*	*11.90%*	*30.58%*	*6.01%*
1973–74	136.0	147.7	146.3	160.2	148.8	138.4
1974–75	164.6	183.9	179.4	194.7	189.2	169.2
1975–76	193.0	220.0	202.7	219.3	223.4	193.6
1976–77	215.6	244.7	224.0	243.6	251.7	213.7
1977–78	235.3	268.4	241.0	263.2	273.4	230.8
1978–79	254.8	285.2	256.6	278.8	291.9	244.6

	Other metal products	*Plumbing fixtures*	*Miscellaneous materials*	*Electrical installation materials*	*Mechanical services components*	*All groups*
Value weight	*2.59%*	*1.19%*	*7.09%*	*8.61%*	*12.70%*	*100.00%*
1973–74	158.5	159.6	134.2	138.3	143.9	145.8
1974–75	162.7	197.7	163.4	157.4	181.3	179.2
1975–76	173.3	232.1	186.8	177.4	201.3	206.2
1976–77	195.0	251.2	204.2	199.6	225.4	230.3
1977–78	198.1	263.7	221.9	215.3	247.2	249.7
1978–79	228.4	260.2	234.2	242.6	268.2	268.1

PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING ALL GROUPS INDEX NUMBERS–SIX STATE CAPITAL CITIES

(*Base of each index: Year* 1966–67 = 100.0)

	State capital cities(a)						*Weighted average of six State capital cities*
	Sydney	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	
1973–74	144.1	148.0	149.0	145.8	142.9	143.8	145.8
1974–75	176.0	180.6	186.6	181.0	176.7	179.3	179.2
1975–76	199.0	209.4	216.3	210.4	208.3	210.4	206.2
1976–77	221.5	234.8	241.2	234.3	235.4	234.8	230.3
1977–78	239.9	254.4	260.9	254.2	258.3	253.7	249.7
1978–79	259.2	271.4	278.6	274.4	276.8	270.5	268.1

(*a*) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

Price index of materials used in manufacturing industry

This index measures changes in prices of materials (including fuels) used by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC), as described in the ABS publication *Australian Standard Industrial Classification (Preliminary Edition)* 1969 (1201.0). The index is on a *net basis,* i.e. it relates in concept only to those materials which are used by establishments within the Manufacturing Division in Australia and which have been produced by establishments outside that Division. Materials purchased by establishments classified to the Australian Manufacturing Division from other establishments in that Division are outside the scope of the index.

The reference base of the index is the year 1968–69 = 100.0. The weighting base of the index corresponds to the year 1971–72. The items included in the index were allocated weights in accordance with estimated manufacturing usage in 1971–72 valued at relevant prices applying in the reference base year 1968–69. The selected items are combined for publication purposes into broad groups using two different classifications:

(i) Australian Standard Industrial Classification (ASIC), and
(ii) Standard International Trade Classification (SITC (R)).

Further information concerning the method of compiling the index, as well as more detailed index numbers, is shown in the publications *Price Index of Materials Used in Manufacturing Industry* (6411.0) and Year Book No. 61.

PRICE INDEX OF MATERIALS USED IN MANUFACTURING INDUSTRY: GROUP INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION

(*Base of each index: Year* 1968–69 = 100.0)

	Imported materials				*Home produced materials*					
	Agri-culture	*Mining*	*Manu-facturing*	*Total imported materials*	*Agri-culture*	*Forestry and fishing*	*Mining*	*Elec-tricity*	*Total home produced materials*	*All groups*
Value weight	*1.92%*	*4.17%*	*21.07%*	*27.16%*	*47.04%*	*1.12%*	*18.92%*	*5.76%*	*72.84%*	*100.00%*
1973–74	130.6	196.3	113.1	127.1	147.9	157.3	119.0	109.9	137.6	134.7
1974–75	149.3	357.8	149.5	181.5	132.2	187.8	129.0	124.6	131.6	145.1
1975–76	166.5	423.6	162.6	202.9	132.3	213.7	163.3	137.9	142.0	158.6
1976–77	258.6	479.5	182.1	233.2	152.5	245.2	189.2	148.8	163.2	182.2
1977–78	303.4	515.3	201.6	257.0	162.4	273.5	211.4	160.9	176.7	198.5
1978–79	285.3	542.6	222.1	275.7	228.8	263.5	281.8	173.8	238.7	248.8

PRICE INDEX OF MATERIALS USED IN MANUFACTURING INDUSTRY: GROUP INDEX NUMBERS BASED ON STANDARD INTERNATIONAL TRADE CLASSIFICATION (REVISED)

(*Base of each index: Year* 1968–69 = 100.0)

	Manufactured materials (imported)			*Other materials (imported and home produced)*			
	Chemicals	*Metal manufactures, components for transport equipment and machinery*	*Other manufactured materials*	*Food, live animals and tobacco*	*Crude materials (excl. fuels)*	*Electricity, gas and fuels*	*All groups*
Value weight	*6.67%*	*5.21%*	*5.76%*	*45.87%*	*20.66%*	*15.83%*	*100.00%*
1973–74	96.3	118.6	106.1	145.9	140.7	126.2	134.7
1974–75	141.9	148.7	137.4	132.4	149.3	179.5	145.1
1975–76	149.4	179.6	148.4	132.5	163.0	229.0	158.6
1976–77	160.3	211.6	164.5	154.9	191.7	254.8	182.2
1977–78	170.7	246.6	185.1	166.6	199.2	291.0	198.5
1978–79	180.9	271.6	201.3	232.5	227.4	362.4	248.8

Price indexes of articles produced by manufacturing industry

These indexes measure changes in the prices of articles produced by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC). The indexes are on a *net basis,* i.e. they relate in concept only to those articles which are produced in defined sectors of Australian manufacturing industry for sale or transfer to other sectors or for export or for use as capital equipment. Articles which are sold or transferred to other establishments within the sector for further processing (as materials, components, fuels, etc.) are excluded.

The following sector price indexes are published:

(i) a net index for the Manufacturing Division of ASIC (known as the *All Manufacturing Industry Index*), and

(ii) net indexes for the twelve sub-divisions within the Manufacturing Division.

The reference base of the index is the year 1968–69 = 100.0. The weighting base of the index corresponds to the year 1971–72. The items included in these indexes were allocated weights in accordance with estimated *net* sector production in the year 1971–72, valued at the relevant prices applying in the reference base year 1968–69.

The selected items are combined for publication purposes using the structure of the Australian Standard Industrial Classification.

Further information concerning the method of compiling the index and monthly index numbers for sub-divisions and special groupings are shown in the publication *Price Indexes of Articles Produced by Manufacturing Industry* (6412.0). Further information about the indexes is also shown in Year Book No. 62.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (*a*)

(*Base of each index: Year* 1968–69 = 100.0)

		Net subdivision indexes (*c*)					
Year	*All Manufacturing Industry Index* (*b*)	*Food, beverages and tobacco (21–22)*	*Textiles (23)*	*Clothing and footwear (24)*	*Wood, wood products and furniture (25)*	*Paper, paper products and printing (26)*	*Chemical, petroleum and coal products (27)*
1973–74	134.6	142.8	129.6	136.7	148.8	134.6	111.6
1974–75	158.1	153.0	142.4	161.3	190.0	168.5	142.4
1975–76	177.8	163.5	159.7	185.2	219.9	196.3	168.2
1976–77	196.9	180.0	178.6	208.1	246.8	212.8	182.4
1977–78	213.8	195.6	193.3	225.2	264.0	231.7	200.7
1978–79	237.4	226.4	205.1	238.4	280.4	245.0	233.1

Year	*Glass, clay and other non-metallic mineral products (28)*	*Basic metal products (29)*	*Fabricated metal products (31)*	*Transport equipment (32)*	*Other industrial machinery and equipment and household appliances (33)*	*Miscellaneous manufacturing products (34)*
1973–74	129.6	129.4	142.3	124.9	132.4	120.6
1974–75	158.3	151.9	183.2	151.2	158.9	143.7
1975–76	183.2	174.0	217.1	175.8	179.2	159.0
1976–77	202.5	200.6	244.9	195.0	199.4	176.0
1977–78	219.8	214.0	268.7	211.6	215.3	192.4
1978–79	236.8	237.2	287.7	230.2	232.2	209.8

(*a*) For a full description of Division C, 'Manufacturing' and the subdivisions within Manufacturing Division, *see Australian Standard Industrial Classification* (ASIC), *Preliminary Edition*, 1969. (*b*) This index is on a net division basis and relates in concept only to articles which are produced in the Manufacturing Division of ASIC for sale or transfer outside the Division. (*c*) These indexes are on a 'net subdivision' basis; the index for each subdivision relates in concept to articles which are produced in that subdivision for sale or transfer outside the subdivision.

EXPORT PRICE INDEXES

An annual index of export prices has been published by the bureau since its inception. Brief descriptions of indexes issued between 1901 and 1979 (i.e. prior to the introduction of the revised Export Price Index) are shown in Year Book No. 55, pages 256–7 and Year Book No. 58, pages 240–2.

The Revised export price index

Introduction

The revised Export Price Index was introduced in July 1979 on reference base 1974–75 = 100.0. Index numbers are available monthly from July 1974. The revised index is a fixed weights index and is weighted using the pattern of Australian exports during the three years 1974–75, 1975–76 and 1976–77. It has a more comprehensive coverage of exports than the former index; in particular exports of manufactured goods are covered more fully. The selected commodities constituted 89 per cent of the total value of exports of merchandise from Australia in the period 1974–75 to 1976–77.

Composition and Weighting

The revised Export Price Index relates to *all exports of merchandise* from Australia. It includes re-exports of merchandise (that is, goods which are imported into Australia and exported at a later date without physical transformation). The index numbers for each month relate to prices of those exports of merchandise that are physically shipped from Australia during that month.

The commodities directly represented in the index were selected on the basis of their export values in the years 1974–75, 1975–76 and 1976–77. They were allocated weights in accordance with the average value of exports for each commodity over the period 1974–75 to 1976–77. The 1975–76 and 1976–77 export values for each commodity were revalued at 1974–75 prices before averaging.

Classifications Used

The selected commodities have been combined into broad index groups in two ways. Index numbers are compiled for:

(i) groups defined in terms of the Sections (1 digit) and Divisions (2 digit) of the *Australian Export Commodity Classification, 1978–79* (AECC), (1203.0);

(ii) groups on an *industry of origin* basis defined in terms of the Divisions (1 digit) and Subdivisions (2 digit) of the 1978 edition of the *Australian Standard Industrial Classification* (ASIC) (1201.0). These groups have been formed by allocating each of the selected commodities to its industry of origin (e.g. Agriculture, forestry and fishing, Mining and Manufacturing);

The corresponding percentage contributions for commodities and groups are shown on pages 138-44.

The 'industry of origin' mentioned above is not necessarily identical with the industry from which the export transactions are actually made. The 'industry of origin' is the industry in which the exported commodity is *primarily produced*, determined in accordance with the classsification rules of the Australian Standard Industrial Classification (ASIC). For instance, many exports are made by traders or by marketing authorities, but these exports are classified to the appropriate producing industries, rather than to the wholesale trading industries from which they are actually exported.

Prices

In general, prices are obtained from major exporters of the selected commodities included in the index. The point of pricing for the Export Price Index is the point at which the goods physically leave Australia, i.e. prices are on the basis free-on-board (f.o.b.) at main Australian ports of export.

As the prices used in the index are expressed in Australian currency, changes in the relative values of the Australian dollar and overseas currencies can have a direct impact on price movements for the many commodities that are sold in currencies other than Australian dollars. Where exports are sold at prices expressed in terms of a foreign currency and forward exchange cover is used, the prices used in the index EXCLUDE forward exchange cover.

The price series used relate to specified standards, grades, types, etc., of each commodity with the aim of incorporating in the index price changes for exports of representative goods of constant quality. Wherever possible, prices to predominant export markets are used for each of the specified goods priced, in order to lessen the impact of price variations attributable solely to changes, over time, in market destinations. In most cases prices are combined using fixed weights between markets. Weights between markets are reviewed from time to time and revised where necessary.

Further information concerning the method of compiling the index can be obtained from the July 1979 issue of the publication *Export Price Index* (6405.0). The tables below show annual index numbers for groups defined in terms of AECC Sections and ASIC Divisions. Index numbers for more detailed groups and monthly index numbers are shown in each issue of the monthly price index publication.

EXPORT PRICE INDEX:
INDEX NUMBERS BASED ON AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC)
(*Base of each index: Year* 1974-75 = 100)

	AECC Sections					
Year	*All groups*	*Food and live animals (0)*	*Crude materials inedible (except fuels) (2)*	*Mineral fuels and lubricants (3)*	*Animals and vegetable oils and fats (4)*	*Chemicals and other manufactured exports (5, 6, 7 and 8)*
1974-75 . .	100	100	100	100	100	100
1975-76 . .	109	97	115	144	98	101
1976-77 . .	122	98	141	156	117	118
1977-78 . .	128	100	149	167	136	125
1978-79 . .	144	119	162	170	157	146

EXPORT PRICE INDEX: INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)

(*Base of each index: Year* 1974–75 = 100)

Year	*ASIC Divisions*		
	Agriculture, forestry fishing and hunting (A)	*Mining (B)*	*Manufacturing (C)*
1974–75 . . .	100	100	100
1975–76 . . .	98	130	105
1976–77 . . .	106	148	119
1977–78 . . .	105	159	127
1978–79 . . .	114	163	150

EXPORT PRICE INDEX—COMPOSITION AND WEIGHTING INDEX ITEMS GROUPED ACCORDING TO AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC) 1978–79

AECC Code	*Description*	*Percentage contribution of—*		
		Items to AECC Divisions	*Items and AECC Divisions to AECC Sections*	*Items, AECC Divisions and Sections to All groups*
0	**FOOD AND LIVE ANIMALS**		**100.00**	**36.80**
00	**Live animals**	**100.00**	**1.40**	**0.52**
	Sheep	100.00	1.40	0.52
01	**Meat and meat preparations**	**100.00**	**18.10**	**6.66**
	Beef and veal—fresh, chilled or frozen	70.80	12.81	4.72
	Mutton and lamb—fresh, chilled or frozen	17.00	3.08	1.13
	Edible offals—fresh, chilled or frozen	6.30	1.14	0.42
	Canned meat	5.90	1.07	0.39
02	**Dairy products and eggs**	**100.00**	**6.20**	**2.28**
	Milk and cream—evaporated, condensed or dried . . .	52.90	3.28	1.21
	Butter	22.70	1.41	0.52
	Cheese and curd	19.80	1.23	0.45
	Eggs—pulped	4.60	0.28	0.10
03	**Fish and fish preparations**	**100.00**	**2.10**	**0.77**
	Prawns and lobsters—fresh or simply preserved	91.00	1.91	0.70
	Abalone canned	9.00	0.19	0.07
04	**Cereals and cereal preparations**	**100.00**	**45.70**	**16.82**
	Wheat—unmilled	69.20	31.62	11.64
	Rice—glazed or polished	3.90	1.78	0.65
	Barley—unmilled	13.50	6.17	2.27
	Oats—unmilled	1.90	0.87	0.32
	Sorghum—unmilled	5.20	2.38	0.88
	Flour—wheaten	3.00	1.37	0.50
	Malt—roasted or not	3.30	1.51	0.56
05	**Fruit and vegetables**	**100.00**	**3.20**	**1.18**
	Apples—fresh or chilled	13.80	0.44	0.16
	Grapes—dried	32.00	1.02	0.38
	Pears—fresh or chilled	9.30	0.30	0.11
	Canned fruit	44.90	1.44	0.53
06	**Sugar, sugar preparations and honey**	**100.00**	**21.80**	**8.02**
	Raw sugar	100.00	21.80	8.02
07	**Coffee, tea, cocoa, spices and manufactures thereof** . . .	**100.00**	**0.40**	**0.15**
	Coffee extracts, essences, concentrates, etc.	34.80	0.14	0.05
	Cocoa preparations	65.20	0.26	0.10
08	**Feeding stuff for animals (except unmilled cereals)** . . .	**100.00**	**1.10**	**0.40**
	Animal feed—meat and bone meal	54.10	0.60	0.22
	Animal feed—milk powder	45.90	0.50	0.18

EXPORT PRICE INDEX—COMPOSITION AND WEIGHTING
INDEX ITEMS GROUPED ACCORDING TO AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC) 1978–79—*continued*

		Percentage contribution of—		
AECC Code	*Description*	*Items to AECC Divisions*	*Items and AECC Divisions to AECC Sections*	*Items, AECC Divisions and Sections to All groups*
2	**CRUDE MATERIALS, INEDIBLE (EXCEPT FUELS)**		**100.00**	**31.40**
21	**Hides, skins and furskins—raw**	**100.00**	**4.30**	**1.35**
	Cattle hides	45.80	1.97	0.62
	Sheep and lambs skins—with wool on	54.20	2.33	0.73
24	**Cork and wood**	**100.00**	**2.10**	**0.66**
	Pulpwood in chips or particles	100.00	2.10	0.66
26	**Textile fibres (other than wool tops) and their wastes**	**100.00**	**32.80**	**10.30**
	Sheep or lambs wool—greasy	89.80	29.45	9.25
	Sheep or lambs wool—clean	10.20	3.35	1.05
27	**Crude fertilizers and crude minerals (except coal, petroleum and precious stones)**	**100.00**	**1.30**	**0.41**
	Common salt in bulk	100.00	1.30	0.41
28	**Metalliferous ores and metal scrap**	**100.00**	**58.70**	**18.43**
	Iron ore and concentrates	43.30	25.42	7.98
	Copper ores and concentrates	3.70	2.17	0.68
	Nickel matte, sinters, etc.	6.90	4.05	1.27
	Alumina	24.70	14.50	4.55
	Lead ores and concentrates	1.30	0.76	0.24
	Zinc ores and concentrates	4.30	2.52	0.79
	Tin ores and concentrates	1.40	0.82	0.26
	Tungsten ores and concentrates	1.00	0.59	0.19
	Bauxite ores and concentrates Manganese ores and concentrates Mineral sands—zircon, rutile, ilmenite } (*a*)	13.40	7.87	2.47
29	**Crude animal and vegetable materials n.e.s.**	**100.00**	**0.80**	**0.25**
	Animal casings	100.00	0.80	0.25
3	**MINERAL FUELS, LUBRICANTS AND RELATED MATERIALS** (*b*)		**100.00**	**10.10**
32	**Coal, coke and briquettes**	**100.00**	**83.00**	**8.38**
	Coal (anthracite, bituminous)	100.00	83.00	8.38
33	**Petroleum and petroleum products**	**100.00**	**17.00**	**1.72**
	Motor spirit—gasoline including aviation spirit	15.40	2.62	0.26
	Kerosene—aviation and lighting	20.10	3.42	0.35
	Distillate fuels	17.90	3.04	0.31
	Fuel oils n.e.s.	32.60	5.54	0.56
	Lubricating oils and greases	14.00	2.38	0.24
34	**Gas—natural and manufactured** (*c*)	**100.00**	(*a*)	(*a*)
	Liquefied propane and butane	100.00	(*a*)	(*a*)
4	**ANIMAL AND VEGETABLE OILS, FATS AND WAXES**		**100.00**	**0.70**
41	**Animal oils and fats**	**100.00**	**100.00**	**0.70**
	Tallow	100.00	100.00	0.70
5	**CHEMICALS AND RELATED PRODUCTS N.E.S.**		**100.00**	**1.50**
54	**Medicinal and pharmaceutical products**	**100.00**	**32.80**	**0.49**
	Medicines for human or animal use	100.00	32.80	0.49
58	**Plastic materials, regenerated cellulose and artificial resins**	**100.00**	**28.00**	**0.42**
	Condensation polycondensation and polyaddition products	18.70	5.24	0.08
	Polymerization and copolymerization products	81.30	22.76	0.34
59	**Chemical materials and products n.e.s.**	**100.00**	**39.20**	**0.59**
	Wheat gluten	28.90	11.33	0.17
	Casein	71.10	27.87	0.42

(*a*) Separate details not available. (*b*) Excludes Division 34. (*c*) For the purpose of publishing the weighting pattern, the percentage contribution for Division 34 has been distributed proportionately across all Sections and Divisions.

EXPORT PRICE INDEX–COMPOSITION AND WEIGHTING INDEX ITEMS GROUPED ACCORDING TO AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC) 1978–79–*continued*

		Percentage contribution of–		
AECC Code	*Description*	*Items to AECC Divisions*	*Items and AECC Divisions to AECC Sections*	*Items, AECC Divisions and Sections to All groups*
6	**MANUFACTURED GOODS, CLASSIFIED CHIEFLY BY MATERIAL**		**100.00**	**12.70**
61	**Leather, leather manufactured, n.e.s. and dressed furskins**	**100.00**	**0.80**	**0.10**
	Leather–cattle	100.00	0.80	0.10
64	**Paper, paperboard and manufactures thereof**	**100.00**	**2.00**	**0.26**
	Paper for printing and writing–uncoated	35.40	0.71	0.09
	Semi-chemical corrugated paper, in rolls or sheets	24.80	0.50	0.07
	Compressed hardboard	15.50	0.31	0.04
	Paper and paperboard–impregnated, coated, etc. not printed matter	24.30	0.48	0.06
65	**Textile yarn, fabrics, made-up articles, n.e.s., and related products**	**100.00**	**4.50**	**0.57**
	Wool tops	66.80	3.00	0.38
	Cotton yarn	7.30	0.33	0.04
	Woven fabrics of synthetic fibres	11.50	0.52	0.07
	Textile fabrics–articles used in machinery or plant	14.40	0.65	0.08
67	**Iron and steel**	**100.00**	**38.90**	**4.94**
	Pig and cast iron	13.30	5.17	0.66
	Ingots, blocks and similar forms	5.70	2.22	0.28
	Blooms and billets	40.60	15.79	2.01
	Coils for re-rolling	6.90	2.68	0.34
	Wire rod–not high carbon or alloy steel	6.50	2.53	0.32
	Bars, rods, angles, shapes, sections, hoop and strip–not high carbon or alloy steel	5.10	1.99	0.25
	Sheets and plates–not high carbon or alloy steel	15.80	6.15	0.78
	Tubes and pipes of steel	6.10	2.37	0.30
68	**Non-ferrous metals**	**100.00**	**45.70**	**5.80**
	Silver and silver alloys–unworked or partly worked	3.10	1.42	0.18
	Unrefined copper–including blister copper	3.40	1.55	0.19
	Copper and copper alloys–refined, unworked, and worked shapes and sections	23.40	10.69	1.36
	Nickel and nickel alloys–unworked and worked shapes and sections	12.20	5.58	0.71
	Aluminium and aluminium alloys–unworked	9.30	4.25	0.54
	Lead and lead alloys–unworked	28.40	12.98	1.65
	Zinc and zinc alloys–unworked	17.80	8.13	1.03
	Tin and tin alloys–unworked	2.40	1.10	0.14
69	**Manufactures of metal n.e.s.**	**100.00**	**8.10**	**1.03**
	Finished structural parts and structures of–			
	Iron or steel	16.50	1.34	0.17
	Aluminium	4.70	0.38	0.05
	Hand tools, etc.	8.00	0.65	0.08
	Interchangeable hand or machine tools	12.30	1.00	0.13
	Welding rods and electrodes	20.90	1.69	0.21
	Articles or iron or steel n.e.s. (including parts and fittings for boats and yachts, and moulds and dies)	37.60	3.04	0.39
7	**MACHINERY AND TRANSPORT EQUIPMENT**		**100.00**	**5.30**
71	**Power generating machinery and equipment**	**100.00**	**5.50**	**0.29**
	Internal combustion piston engines except for aircraft	68.70	3.78	0.20
	Electric motors, generators, rotary convertors and parts	31.30	1.72	0.09
72	**Machinery specialised for particular industries**	**100.00**	**22.20**	**1.18**
	Agricultural machinery for soil preparation or cultivation (excluding tractors)	21.60	4.79	0.25
	Harvesting and threshing machinery (including lawn mowers)	44.00	9.77	0.52
	Excavating, levelling, extracting, etc., machinery and parts thereof	34.40	7.64	0.41

EXPORT PRICE INDEX—COMPOSITION AND WEIGHTING
INDEX ITEMS GROUPED ACCORDING TO AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC) 1978–79—*continued*

		Percentage contribution of—		
AECC Code	*Description*	*Items to AECC Divisions*	*Items and AECC Divisions to AECC Sections*	*Items, AECC Divisions and Sections to All groups*
7	MACHINERY AND TRANSPORT EQUIPMENT—*continued*			
74	**General industrial machinery, equipment and parts n.e.s.**	**100.00**	**18.10**	**0.96**
	Pumps for liquids—including motor and turbo pumps	17.60	3.18	0.17
	Work trucks used in factories, dock areas, airports, etc., and parts thereof	11.20	2.03	0.11
	Lifting, handling, loading, etc., machinery and parts thereof	27.50	4.98	0.26
	Transmission shafts, cranks, gears, flywheels, clutches, etc.	43.70	7.91	0.42
77	**Electrical machinery, apparatus and appliances, n.e.s. and electric parts thereof**	**100.00**	**14.60**	**0.77**
	Transformers—electrical	18.60	2.72	0.14
	Electrical apparatus for making and breaking electric circuits	37.60	5.49	0.29
	Insulated electric wire, cable, etc.	43.80	6.39	0.34
78	**Road vehicles**	**100.00**	**22.60**	**1.20**
	Passenger motor cars—except buses or special vehicles	39.60	8.95	0.48
	Motor vehicles for the transport of goods or materials	13.50	3.05	0.16
	Parts and accessories, n.e.s., for motor vehicles	46.90	10.60	0.56
79	**Other transport equipment**	**100.00**	**17.00**	**0.90**
	Parts for aircraft—except tyres, engines and electrical parts	100.00	17.00	0.90
8	**MISCELLANEOUS MANUFACTURED ARTICLES**		**100.00**	**1.30**
87	**Professional, scientific and controlling instruments and apparatus, n.e.s.**	**100.00**	**22.50**	**0.29**
	Instruments for physical, chemical analysis—except mechanical	100.00	22.50	0.29
88	**Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks**	**100.00**	**26.10**	**0.34**
	Photographic plates and film in the flat—sensitised, unexposed	8.60	2.25	0.03
	Films in rolls—sensitised, unexposed	16.30	4.25	0.05
	Sensitised paper, paperboard and cloth—undeveloped	43.60	11.38	0.15
	Frames for spectacles	31.50	8.22	0.11
89	**Miscellaneous manufactured articles, n.e.s.**	**100.00**	**51.40**	**0.67**
	Printed books, brochures, etc.	53.50	27.50	0.36
	Articles made from gut	46.50	23.90	0.31
97	**Gold**	**100.00**	**100.00**	**0.20**
	Non-monetary gold	100.00	100.00	0.20

EXPORT PRICE INDEX—COMPOSITION AND WEIGHTING INDEX ITEMS GROUPED ACCORDING TO THE AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)—1978 EDITION

		Percentage contribution of—		
ASIC Code	*Description*	*Items to ASIC Subdivisions*	*Items and ASIC Subdivisions to ASIC Divisions*	*ASIC Divisions and Subdivisions to All groups*
A	**AGRICULTURE, FORESTRY, FISHING AND HUNTING**		**100.00**	**25.51**
01	**Agriculture**	**100.00**	**100.00**	**25.51**
	Sheep—live	2.00	2.00	
	Wheat—unmilled	45.30	45.30	
	Barley—unmilled	8.90	8.90	
	Oats—unmilled	1.20	1.20	
	Sorghum—unmilled	3.50	3.50	
	Apples—fresh or chilled	0.70	0.70	
	Grapes—dried	1.40	1.40	
	Pears—fresh or chilled	0.40	0.40	
	Sheep or lambs wool—greasy	36.60	36.60	
B	**MINING**		**100.00**	**21.55**
11	**Metallic minerals**	**100.00**	**59.00**	**12.71**
	Iron ore and concentrates	63.20	37.29	
	Copper ores and concentrates	5.50	3.25	
	Lead ores and concentrates	2.00	1.18	
	Zinc ores and concentrates	6.20	3.66	
	Tin ores and concentrates	2.00	1.18	
	Tungsten ores and concentrates	1.50	0.88	
	Bauxite ores and concentrates Manganese ores and concentrates Mineral sands—zircon, rutile, ilmenite (a)	19.60	11.56	
12	**Coal**	**100.00**	**39.10**	**8.43**
	Coal (anthracite, bituminous)	100.00	39.10	
15	**Other non-metallic minerals**	**100.00**	**1.90**	**0.41**
	Common salt in bulk	100.00	1.90	
C	**MANUFACTURING**		**100.00**	**52.83**
21	**Food, beverages and tobacco**	**100.00**	**44.00**	**23.25**
	Beef and veal—fresh, chilled or frozen	20.20	8.89	
	Mutton and lamb—fresh, chilled or frozen	4.90	2.16	
	Edible offals—fresh, chilled or frozen	1.70	0.75	
	Canned meat	1.70	0.75	
	Milk and cream—evaporated, condensed or dried	5.30	2.33	
	Butter	2.20	0.97	
	Cheese and curd	1.90	0.83	
	Prawns and lobsters—fresh or simply preserved	3.00	1.32	
	Canned abalone	0.30	0.13	
	Rice—glazed or polished	2.80	1.23	
	Flour—wheaten	2.20	0.97	
	Malt—roasted or not	2.40	1.06	
	Canned fruit	2.20	0.97	
	Raw sugar	34.40	15.13	
	Coffee extracts, essences, concentrates, etc.	0.20	0.09	
	Cocoa preparations	0.50	0.22	
	Animal feed—meat and bone meal	0.90	0.40	
	Animal feed—milk powder	0.80	0.35	
	Cattle hides	2.70	1.19	
	Sheep and lambs skins—with wool on	3.10	1.36	
	Animal casings	1.10	0.48	
	Tallow	3.00	1.32	
	Wheat gluten	0.70	0.31	
	Casein	1.80	0.79	

For footnotes *see* end of table.

EXPORT PRICE INDEX—COMPOSITION AND WEIGHTING
INDEX ITEMS GROUPED ACCORDING TO THE AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)—1978 EDITION—*continued*

		Percentage contribution of—		
ASIC Code	*Description*	*Items to ASIC Subdivisions*	*Items and ASIC Subdivisions to ASIC Divisions*	*ASIC Divisions and Subdivisions to All groups*
C	MANUFACTURING—*continued*			
23	**Textiles**	**100.00**	**3.10**	**1.63**
	Sheep or lambs wool—clean	64.80	2.01	
	Wool tops	23.50	0.73	
	Cotton yarn	2.50	0.08	
	Woven fabrics of synthetic fibres	3.70	0.11	
	Textile fabrics—articles used in machinery or plant	5.50	0.17	
25	**Wood, wood products and furniture**	**100.00**	**1.40**	**0.74**
	Pulpwood in chips or particles	94.40	1.32	
	Compressed hardboard	5.60	0.08	
26	**Paper, paper products, printing and publishing**	**100.00**	**1.10**	**0.58**
	Paper for printing or writing—uncoated	15.80	0.17	
	Semi-chemical corrugated paper, in rolls or sheets	10.50	0.12	
	Paper and paperboard—impregnated, coated, etc, not printed matter	10.50	0.12	
	Printed books, brochures, etc.	63.20	0.69	
27	**Chemical, petroleum and coal products (*b*)**	**100.00**	**5.00**	**2.64**
	Motor spirit—gasoline, including aviation spirit	10.20	0.51	
	Kerosene—aviation and lighting	13.20	0.66	
	Distillate fuels	12.10	0.60	
	Fuel oils n.e.s.	21.10	1.06	
	Lubricating oils and greases	9.10	0.45	
	Liquified propane and butane (c)	(*a*)	(*a*)	
	Medicines for human or animal use	18.50	0.93	
	Plastic materials, regenerated cellulose and artificial resins—			
	Condensation, polycondensation and polyaddition products	3.00	0.15	
	Polymerization and copolymerization products	12.80	0.64	
29	**Basic metal products**	**100.00**	**31.80**	**16.80**
	Nickel matte, sinters, etc.	7.60	2.42	
	Alumina	27.40	8.71	
	Iron and steel—			
	Pig and cast iron	3.90	1.24	
	Ingots, blocks and similar forms	1.70	0.54	
	Blooms and billets	11.80	3.75	
	Coils for re-rolling	2.00	0.64	
	Wire rod—not high carbon or alloy steel	1.90	0.60	
	Bars, rods, angles, shapes, sections, hoop and strip—not high carbon or alloy steel	1.50	0.48	
	Sheets and plates—not high carbon or alloy steel	4.70	1.50	
	Tubes and pipes of steel	1.80	0.57	
	Silver and silver alloys—unworked or partly worked	1.10	0.35	
	Unrefined copper—including blister copper	1.20	0.38	
	Copper and copper alloys—refined, unworked and worked shapes and sections	8.00	2.54	
	Nickel and nickel alloys—unworked and worked shapes and sections	4.30	1.37	
	Aluminium and aluminium alloys—unworked	3.20	1.02	
	Lead and lead alloys—unworked	9.80	3.12	
	Zinc and zinc alloys—unworked	6.10	1.94	
	Tin and tin alloys—unworked	0.80	0.25	
	Non-monetary gold	1.20	0.38	

For footnotes *see* end of table.

EXPORT PRICE INDEX—COMPOSITION AND WEIGHTING INDEX ITEMS GROUPED ACCORDING TO THE AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)—1978 EDITION—*continued*

		Percentage contribution of—		
ASIC Code	*Description*	*Items to ASIC Subdivisions*	*Items and ASIC Subdivisions to ASIC Divisions*	*ASIC Divisions and Subdivisions to All groups*
C	MANUFACTURING—*continued*			
31	**Fabricated metal products**	**100.00**	**1.30**	**0.69**
	Finished structural parts or structures of—			
	Iron or steel	24.60	0.32	
	Aluminium	7.20	0.09	
	Hand tools etc.	13.10	0.17	
	Articles of iron or steel, n.e.s. (including parts and fittings for boats and yachts, and moulds and dies)	55.10	0.72	
32	**Transport equipment**	**100.00**	**4.20**	**2.22**
	Internal combustion piston engines—except for aircraft	8.60	0.36	
	Passenger motor cars—except buses or special vehicles	20.40	0.86	
	Motor vehicles for the transport of goods or materials	7.20	0.30	
	Parts and accessories, n.e.s., for motor vehicles	24.40	1.02	
	Parts for aircraft—except tyres, engines and electrics	39.40	1.66	
33	**Other machinery and equipment**	**100.00**	**7.10**	**3.75**
	Interchangeable hand or machine tools	3.40	0.24	
	Welding rods and electrodes	5.90	0.42	
	Agricultural machinery and parts for soil preparation, cultivation, harvesting and threshing (excluding tractors)	19.70	1.40	
	Excavating, levelling, extracting machinery and parts thereof	10.40	0.74	
	Pumps for liquids—including motor and turbo pumps	4.30	0.31	
	Work trucks used in factories, dock areas and airports and parts thereof	2.70	0.19	
	Lifting, handling, loading, etc. machinery and parts thereof	6.90	0.49	
	Transmission shafts, cranks, gears, flywheels, clutches, etc.	10.60	0.75	
	Electric power machinery and switchgear	13.50	0.96	
	Insulated electric wire, cable, etc.	8.80	0.62	
	Instruments for physical, chemical analysis—except mechanical	7.70	0.55	
	Photographic supplies	6.10	0.43	
34	**Miscellaneous manufacturing**	**100.00**	**1.00**	**0.53**
	Leather from cattle	19.20	0.19	
	Frames for spectacles	21.20	0.21	
	Articles made from gut	59.60	0.60	

(*a*) Separate details not available. (*b*) Excludes liquified propane and butane. (*c*) For the purpose of publishing this weighting pattern, the percentage contribution of the item "liquified propane and butane" has been distributed proportionately across all Subdivisions and Divisions.

Previous wholesale price indexes

The *Melbourne Wholesale Price Index,* first compiled in 1912, was discontinued in 1961. The *Wholesale Price (Basic Materials and Foodstuffs) Index*, which replaced the Melbourne Wholesale Price Index from 1936–37, was discontinued in 1970. Further information concerning these indexes is shown in Year Book No. 61.

References

For further information on the subjects dealt with in the foregoing pages, *see* the following ABS publications: *Monthly Summary of Statistics, Australia* (1304.0); *Digest of Current Economic Statistics* (1305.0); *Consumer Price Index* (6401.0); *Consumer Price Index, Monthly Food Groups Index Numbers* (6402.0); *Average Retail Prices of Selected Food and Grocery Items, Six State Capital Cities and Canberra* (6403.0); *Consumer Price Index, Monthly Food Group Index, Darwin* (6413.0); *Price Index of Materials Used in Building other than House Building* (6407.0); *Price Index of Materials Used in House Building* (6408.0); *Price Index of Materials Used in Manufacturing Industry* (6411.0); *Price Indexes of Articles Produced by Manufacturing Industry* (6412.0); *Price Index of Electrical Installation Material* (6409.0); *Price Indexes of Metallic Materials* (6410.0); *Export Price Index* (6405.0).

PRICES JUSTIFICATION TRIBUNAL

General

The Prices Justification Tribunal was established in August 1973 pursuant to the *Prices Justification Act* 1973. Amendments to the Act occurred in 1974, 1976 and 1979. The functions of the Tribunal are to conduct inquiries in relation to prices for the supply of goods or services, and to report to the Minister the results of every such inquiry.

Organisation

The Tribunal consists of a Chairman and such number of other members as are from time to time appointed in accordance with the Act. The Office of the Prices Justification Tribunal comprises the staff required to assist the Tribunal in the performance of its functions, and consists of persons appointed or employed under the *Public Service Act* 1922.

Further information concerning the Prices Justification Tribunal and its operations is contained in its Annual Reports to Parliament.

Legislative Provisions

Sub-sections 16(2) (a) and (b) of the Prices Justification Act describe the nature of the inquiries that may be undertaken by the Tribunal pursuant to its functions.

Section 16(2) provides that:

' An inquiry under this Part may be either—

(*a*) a prices justification inquiry, that is to say an inquiry as to whether the price or prices at which a company or companies (whether a prescribed company or prescribed companies or not) supplies or supply, or proposes or propose to supply, goods or services of a particular description is or are justified and, if the Tribunal is of the opinion that the price or any of the prices is not justified, what lower price for the supply by the company or companies concerned of goods or services of that description would be justified; or

(*b*) an inquiry into a matter specified by the Minister in a notice under paragraph 17(1) (b).
(In accordance with sub-section 17(1) (b) of the Act, the Minister may require the Tribunal to conduct an inquiry not being a prices justification inquiry into a specified matter or specified matters relating to the prices at which goods or services are supplied.)'

The Tribunal's enabling legislation also provides for the following:

(i) The Tribunal has the power to require a company to furnish information or produce documents that are relevant to the making of a decision by the Tribunal whether to hold an inquiry in relation to the company or relevant to an inquiry that is being held in relation to the company.

(ii) The Tribunal shall before deciding to hold on its own initiative a prices justification inquiry:

- publish by advertisement in the Australian Government Gazette and in newspapers throughout Australia a notice stating that the Tribunal is considering whether to hold the inquiry and inviting submissions from interested persons on the question whether such an inquiry should be held;
- serve notice on the company or companies stating that the Tribunal is considering whether to hold the inquiry and inviting submissions on the question;
- when requested by a company, the Tribunal will hold a conference on the question, allowing persons with a substantial interest in the matter to attend such conference;
- apply to the Minister for approval to hold the inquiry (this approval is sought in circumstances where the Tribunal, following the receipt of submissions on the question and, as necessary, the holding of a conference, forms the view that a prices justification inquiry should be held. In other cases the Tribunal will notify the company or companies that it will not proceed with the inquiry.)

(iii) The Tribunal may take up to three months to complete a prices justification inquiry and report and up to four months in other cases. If the Tribunal is of the opinion that a company or any of the companies has failed to provide sufficient information, a further period may be specified by the Tribunal within which to complete its inquiry and report.

(iv) The Tribunal is empowered to grant an interim price increase which may apply during the course of the Tribunal's considerations of a company's proposed or existing prices.

(v) Where a prices justification inquiry has been completed, a company or companies may be required to notify the Tribunal of proposed prices for a period of up to twelve months or, with the Minister's approval, for a longer period.

Public Inquiry Procedures

Subject to the Act, the procedures followed at public inquiries are within the discretion of the Tribunal. The present practices observed by the Tribunal are:

- (i) Companies and intending parties to an inquiry are asked to present written submissions by a date prior to the commencement of the inquiry.
- (ii) Evidence at an inquiry is submitted under oath or affirmation.
- (iii) Companies and parties may be asked to read or speak to part or all of their submissions.
- (iv) Questions may be directed by Members of the Tribunal to any witness. No other questioning of witnesses is permitted.
- (v) Confidential submissions and evidence may be taken in private if the Tribunal considers that it is desirable to do so.
- (vi) Following the presentation by companies and parties of all submissions and evidence, the opportunity is provided to them to comment on the submissions and evidence presented by others or, as necessary, to present additional evidence.
- (vii) At the conclusion of the public hearings, the Division specifies a date for the receipt of any additional material. This option may be exercised by a company or party when it is desired to comment on evidence given by others during the course of the hearings or may be used to present new evidence. Such material is made available to the participating companies and parties (not being confidential material), thus providing a further opportunity for comment.

Guidelines and Criteria

The Prices Justification Act provides that in conducting a prices justification inquiry, the Tribunal shall have due regard to the need for the company or companies concerned to achieve a level of profitability that is sufficient to enable the company or companies to maintain an adequate level of investment and employment. No other guideline, as such, is specified in the legislation.

Having regard to the amendments to the Prices Justification Act which were proclaimed in May 1979, the Tribunal will be according greater emphasis in future to price surveillance and public inquiry.

In relation to a surveillance programme, an important concern of the Tribunal is with areas of the economy where competition may be weak or absent and where, as a result firms may possess market power or, in other words, some marked degree of independence from competitive forces as to the prices they charge or the output they produce.

Whether firms have discretionary power over the prices they charge can generally only be determined after an analysis of all the main competitive characteristics of the relevant industry, usually including their number and size, distribution of sellers, entry barriers, competition from substitute or near-substitute products and the extent of vertical integration. Other factors such as the buying power of customers, or the extent to which consumers are informed, often need to be considered.

Activities, 1978-79

During the course of 1978-79, the Tribunal completed and issued reports on four public inquiries. Two of the inquiries, relating to Dalgety Australia Ltd, and Shell Australia Limited and Related Companies, arose as a result of the companies proposing higher prices or charges* pursuant to section 18 of the Prices Justification Act; the third, relating to Elder Smith Goldsbrough Mort Limited, dealt with the justification of the company's existing and proposed charges* and was undertaken pursuant to sections 16 and 18 of the Act; the fourth, relating to the prices charged by Tioxide Australia Pty Ltd, was instituted by the Tribunal pursuant to section 16.

In addition to the four public inquiries, the Tribunal instituted action during the year to examine the prices and margins applying in respect of beef marketing and processing in Australia and the prices and margins applying in respect of manufacturing, wholesaling and retailing of processed foodstuffs in Australia.

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* Prior to the May 1979 amendments to the Prices Justification Act, companies or groups of companies with annual turnovers in excess of $30 million were required to notify the Tribunal of all proposed price increases. This obligation was removed by the amending legislation.

HOUSEHOLD EXPENDITURE SURVEYS

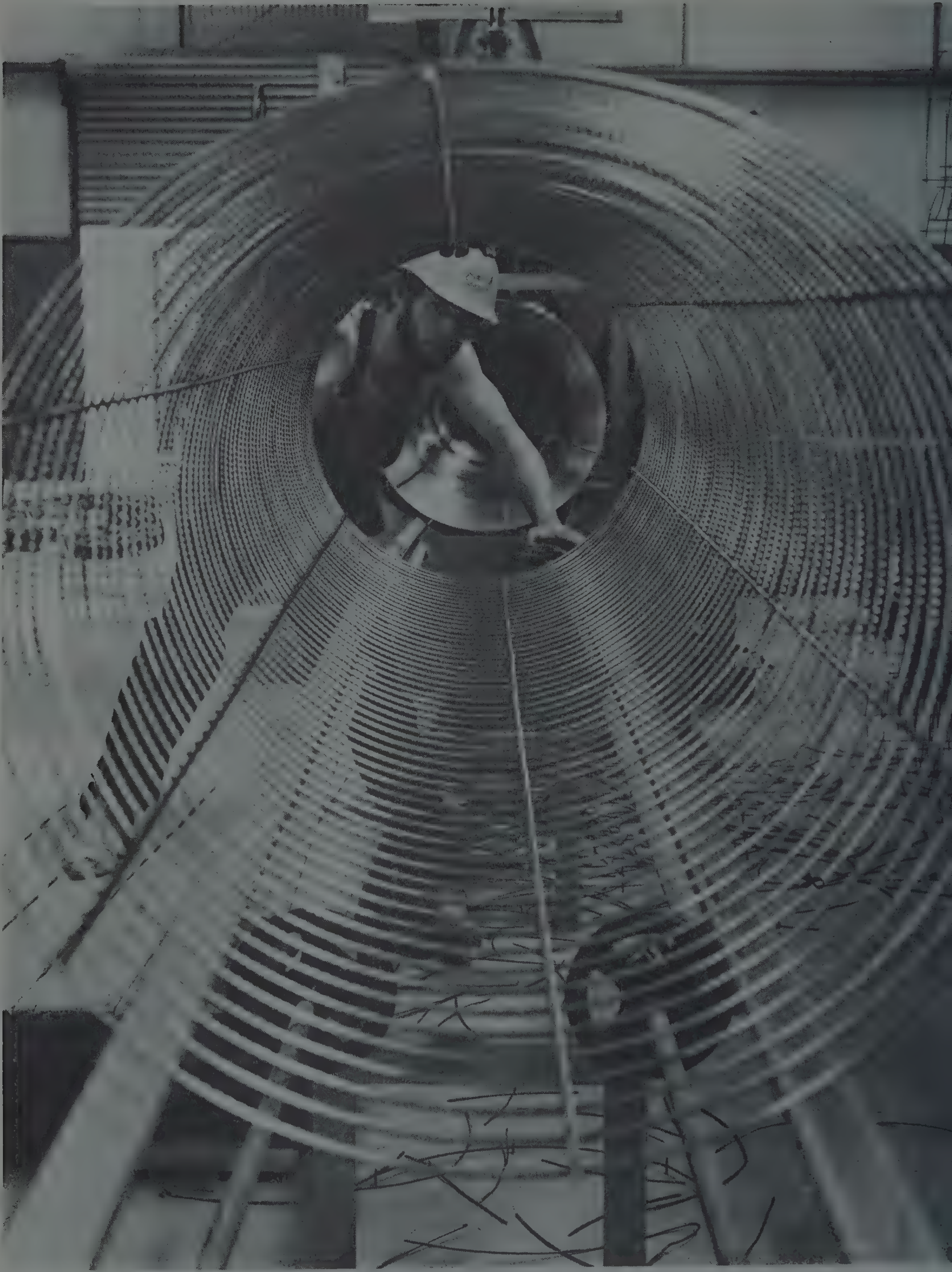
During the financial years 1974-75 and 1975-76, the ABS conducted two surveys in order to obtain information about the expenditure patterns of private households. The 1974-75 survey was confined to a sample of households in the six State capital cities and Canberra (collection in Darwin being suspended in December 1974 due to cyclone Tracy), while the coverage of the 1975-76 survey was extended to include other urban and rural regions. Apart from limited attempts in 1910-11 and 1913 to assess the spending patterns of Australian households, these surveys were the first official collections of household expenditure statistics conducted in this country.

Surveys of household expenditure and related topics have formed an integral part of the statistical programmes of a number of other countries for many years. Perhaps the most important reason for the collection of data relating to expenditure at the household level is to provide information for use in improving the representativeness of the items and the weighting pattern used to compile the Consumer Price Index (see page 127). Household expenditure statistics also provide a rich source of data needed for a wide range of policy and research purposes. These include the planning of welfare services; assessing the need for, and effect of, programmes in fields such as housing, education and health; assessing the impact of taxation and government benefits; and improving estimates of private final consumption expenditure in the National Accounts.

Further details about the 1974-75 and 1975-76 surveys are contained in Year Book No. 63, pages 119-123.

CHAPTER 8

MANPOWER



Steel reinforcing for concrete pipe production.

CHAPTER 8

MANPOWER

The principal subjects covered in this chapter are the labour force and unemployment, civilian employees, wage rates, earnings, hours of work, industrial disputes and labour organisations. Further detail on these subjects is contained in *Labour Statistics* (6101.0) and in other publications which are referred to in the various sections of this chapter.

THE LABOUR FORCE

This section contains a number of series relating to the labour force and its components. The labour force comprises two categories of persons: those who are employed and those who are unemployed. In the first category are included employers, self-employed persons, wage and salary earners, and unpaid family helpers. Comprehensive details for each State and Territory and for Australia as a whole in respect of persons in the labour force, classified according to industry, occupation, occupational status (i.e. whether employers, self-employed persons, wage and salary earners or unpaid family helpers) and personal characteristics such as age, sex, marital status and birthplace, are obtained only at a general census of population.

In addition to the population censuses, estimates of the labour force are obtained through the population survey, which is now conducted monthly by means of personal interviews at a sample of households throughout Australia (*see* below). The survey provides particulars of the demographic and labour force characteristics of the population.

Detailed industry estimates for each State and Territory are obtained only in respect of employees, through a monthly collection from employers. These estimates, which exclude employees in agriculture and in private households employing staff, are based on benchmarks established by analysing data from the population census and other relevant sources such as special returns from government bodies and the Australian Bureau of Statistics' economic censuses and surveys. Further information about estimates of civilian employees is given on pages 162–5.

The population census

Information about the labour force questions in the population census of June 1976 is contained in the publication *Population and Dwellings: Cross-Classified Tables* (2418.0 to 2426.0). More detailed information about the labour force is available on microfiche and is listed in the *Catalogue of 1976 Census Tables* (2103.0).

The population survey

The population survey is the general title given to the household sample survey which since February 1978 has been conducted monthly in all States and Territories. Although emphasis in the survey is placed on the regular collection of data on demographic and labour force characteristics of the population, supplementary surveys of particular aspects of the labour force or of other subjects are carried out from time to time. Statistics from supplementary surveys are released in publications which are available free on request. A list of titles is given on page 161.

The survey is based on a multi-stage area sample of private dwellings (about 30,000 houses, flats, etc.) and non-private dwellings (hotels, motels, etc.), and covers about two-thirds of one per cent of the population of Australia. The information is obtained from the occupants of selected dwellings by carefully chosen and specially trained interviewers, the interviews generally being conducted during the two weeks beginning on the Monday between the 6th and 12th of each month. The information obtained relates to the week before the interview (i.e. the survey week).

The labour force survey

A description of the labour force survey and a selection of principal statistics obtained from it are given in this section. The first Australia-wide labour force survey was carried out in February 1964 and surveys were conducted quarterly until February 1978. Estimates are published in the monthly publications, *The Labour Force, Australia (Preliminary)* (6202.0), *The Labour Force, Australia* (6203.0), and *Unemployment, Australia (Preliminary Estimates)* (6201.0). Comprehensive statistics have also been published in special annual publications entitled *The Labour Force, Australia* (6204.0) covering the period 1964 to 1977. However, because of recent revisions to survey estimates (*see* below), figures in monthly publications prior to February 1978 and in annual publications to 1977 are not directly comparable with current estimates shown in the following tables.

Scope and definitions

The survey includes all persons aged fifteen years and over except members of the permanent defence forces; certain diplomatic personnel of overseas governments, customarily excluded from census and estimated populations; overseas visitors holidaying in Australia; and members of non-Australian defence forces (and their dependants) stationed in Australia.

The labour force category to which a person is assigned depends on his actual activity (i.e. whether working, looking for work, etc) during the survey week. This is determined from answers given to a set of questions designed for this purpose. For further information *see Information Paper: Questionnaires used in the Labour Force Survey* (6232.0). The following definitions relate only to those persons within the scope of the survey.

Employed persons comprise all those aged 15 years and over who, during the survey week:

(*a*) worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (including employees, employers and self-employed persons); or

(*b*) worked for 15 hours or more without pay in a family business or on a farm (i.e. unpaid family helper); or

(*c*) were employees who had a job but were not at work and were: on paid leave; on leave without pay for less than four weeks up to the end of the survey week; stood down without pay because of bad weather or plant breakdown at their place of employment for less than four weeks up to the end of the survey week; on strike or locked out; on workers' compensation and expected to be returning to their job; or receiving wages or salary while undertaking full-time study; or

(*d*) were employers or self-employed persons who had a job, business or farm, but were not at work.

Unemployed persons are those aged 15 years and over who were not employed during the survey week, and

(*a*) had actively looked for full-time or part-time work at any time in the four weeks up to the end of the survey week and:

  (i) were available for work in the survey week, or would have been available except for temporary illness (i.e. lasting for less than four weeks to the end of the survey week); or

  (ii) were waiting to start a new job within four weeks from the end of the survey week and would have started in the survey week if the job had been available then; or

(*b*) were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the survey week (including the whole of the survey week) for reasons other than bad weather or plant breakdown.

The *labour force* comprises all persons who, during the survey week, were employed or unemployed, as defined above.

These definitions conform to the international standard definitions specified by the International Labour Organisation (ILO).

Revision of series

The survey estimates are calculated in such a way as to conform to the independently estimated distribution of the population by age and sex. As a consequence, whenever these population benchmarks are revised it becomes necessary to revise the labour force estimates also. Survey estimates in this section are based on revised population estimates derived from the 1971 and 1976 population census results adjusted for under-enumeration. For information concerning these population estimates see *Population and Vital Statistics; June Quarter 1977* (3212.0).

Survey estimates have also been revised to make them comparable with estimates for February 1978 and subsequent months, which have been obtained by using a new sample and revised questionnaire. Revised estimates were first published in the February 1978 issue of *The Labour Force, Australia* (6203.0), which contains information concerning the methods used in the revision. Figures of total population fifteen years of age and over for each sex are derived from the official population estimates which, in turn, are based on results of population censuses. However, the population benchmarks used in the survey are revised at infrequent intervals and may differ from official estimates of the population and other demographic statistics. Figures of marital status and all labour force characteristics of these populations are derived from the sample survey data. For this and other reasons, including differences in timing, methods of collection (personal interview in the survey, self-enumeration in the census) and, in some cases, concepts and definitions, the survey estimates of marital status and labour force characteristics may not agree closely with the corresponding census figures. In addition it should be noted that the published census labour force estimates have not been adjusted for any under-enumeration of the population.

Reliability of the estimates

Since the estimates in the following tables are based on information obtained from the occupants of a sample of dwellings, the estimates and the movements derived from them are subject to sampling variability; that is, they may differ from the figures that would have been produced if all dwellings had been included in the surveys. One measure of the likely difference is given by the standard error, which indicates the extent to which an estimate might have varied by chance because only a sample of dwellings was included. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included, and about nineteen chances in twenty that the difference will be less than two standard errors.

Space does not allow for the separate indication of the standard errors of all estimates in this section. A table of standard errors which is intended to be of general application is therefore given below.

An example of the use of the table is as follows: if the estimate for Australia obtained from the sample is 100,000, the standard error is 3,900; there are then about two chances in three that the true figure is within the range 96,100 to 103,900 and about nineteen chances in twenty that this figure is between 92,200 and 107,800.

STANDARD ERRORS OF ESTIMATES FOR AUSTRALIA

Size of estimate	*Number*	*Per cent of estimate*	*Size of estimate*	*Number*	*Per cent of estimate*
4,500	970	21.6	200,000	5,100	2.6
5,000	1,000	20.0	300,000	6,000	2.0
10,000	1,400	14.0	500,000	7,200	1.4
20,000	2,000	10.0	1,000,000	9,100	0.9
50,000	2,900	5.8	2,000,000	11,000	0.6
100,000	3,900	3.9	5,000,000	15,000	0.3

The standard errors of estimates relating to agricultural employment are generally somewhat higher than the standard errors of other estimates of the same magnitude. Estimates for females also tend to have higher standard errors than estimates of equivalent size for males in similar categories.

The reliability of an estimated percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the numerator and the size of the denominator. However, the per cent standard error of the estimated percentage will generally be lower than the per cent standard error of the estimate of the numerator. The per cent standard errors of the numerators can be obtained from the table above.

As the standard errors in the table above show, the smaller the estimate the higher is the relative standard error. Very small estimates are thus subject to such high standard errors (relative to the size of the estimate) as to detract seriously from their value for most reasonable uses. In the following tables, estimates less than 4,500 have not been included. Although figures for these small components can in some cases be derived by subtraction, they should not be regarded as reliable.

The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of imperfections in reporting by interviewers and respondents. Inaccuracies of this kind are referred to as the *non-sampling error*, and they may occur in any enumeration, whether it be a full count or only a sample. Every effort is made to reduce the non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers and efficient operating procedures.

CIVILIAN POPULATION AGED 15 YEARS AND OVER, BY EMPLOYMENT STATUS(*a*)

May—	Employed	*Unemployed*							
		Looking for full-time work	Looking for part-time work	Total	Labour force	Not in labour force	Civilian population aged 15 years and over	Unemployment rate(*b*)	Labour force participation rate(*c*)
				—'000—				—per cent—	
MALES									
1974 . .	3,894.2	43.9	10.0	53.9	3,948.1	866.5	4,814.6	1.4	82.0
1975 . .	3,839.4	127.8	16.7	144.4	3,983.8	915.2	4,899.0	3.6	81.3
1976 . .	3,886.9	127.2	14.6	141.8	4,028.6	947.6	4,976.2	3.5	81.0
1977 . .	3,891.5	163.0	21.7	184.7	4,076.2	985.8	5,062.0	4.5	80.5
1978(*d*) .	3,863.5	194.8	14.4	209.1	4,072.6	1,087.2	5,159.8	5.1	78.9
1979 . .	3,908.3	197.7	13.0	210.6	4,118.9	1,132.4	5,251.3	5.1	78.4
MARRIED WOMEN									
1974 . .	1,301.8	18.3	22.4	40.7	1,342.5	1,974.4	3,317.0	3.0	40.5
1975 . .	1,289.6	40.8	37.6	78.5	1,368.0	1,964.3	3,332.3	5.7	41.1
1976 . .	1,346.6	32.2	30.8	63.0	1,409.6	1,956.0	3,365.5	4.5	41.9
1977 . .	1,382.0	42.7	31.9	74.6	1,456.6	1,950.4	3,407.0	5.1	42.8
1978(*d*) .	1,356.5	49.8	34.1	83.9	1,440.4	1,958.7	3,399.1	5.8	42.4
1979 . .	1,356.3	40.0	32.2	72.2	1,428.5	2,035.9	3,464.4	5.1	41.2
ALL FEMALES									
1974 . .	2,023.8	37.4	32.7	70.1	2,093.8	2,812.9	4,906.8	3.3	42.7
1975 . .	2,012.3	92.2	51.6	143.8	2,156.1	2,845.2	5,001.2	6.7	43.1
1976 . .	2,095.5	86.7	47.4	134.1	2,229.6	2,860.4	5,090.0	6.0	43.8
1977 . .	2,132.7	112.8	56.3	169.1	2,301.8	2,878.4	5,180.2	7.3	44.4
1978(*d*) .	2,135.3	136.8	49.3	186.2	2,321.4	2,964.5	5,285.9	8.0	43.9
1979 . .	2,135.0	137.5	48.5	186.0	2,321.0	3,061.3	5,382.3	8.0	43.1
PERSONS									
1974 . .	5,917.9	81.3	42.7	124.0	6,041.9	3,679.4	9,721.4	2.1	62.2
1975 . .	5,851.6	220.0	68.2	288.2	6,139.8	3,760.4	9,900.2	4.7	62.0
1976 . .	5,982.3	213.8	62.0	275.9	6,258.2	3,808.0	10,066.2	4.4	62.2
1977 . .	6,024.2	275.8	78.0	353.8	6,378.0	3,864.2	10,242.2	5.5	62.3
1978(*d*) .	5,998.7	331.6	63.7	395.3	6,394.0	4,051.7	10,445.7	6.2	61.2
1979 . .	6,043.3	335.1	61.4	396.6	6,439.9	4,193.6	10,633.5	6.2	60.6

(*a*) For definitions and scope of estimates *see* page 152. (*b*) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (*c*) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group. (*d*) *See* page 151 for change in timing of survey from February 1978 which may have affected the level of the figures.

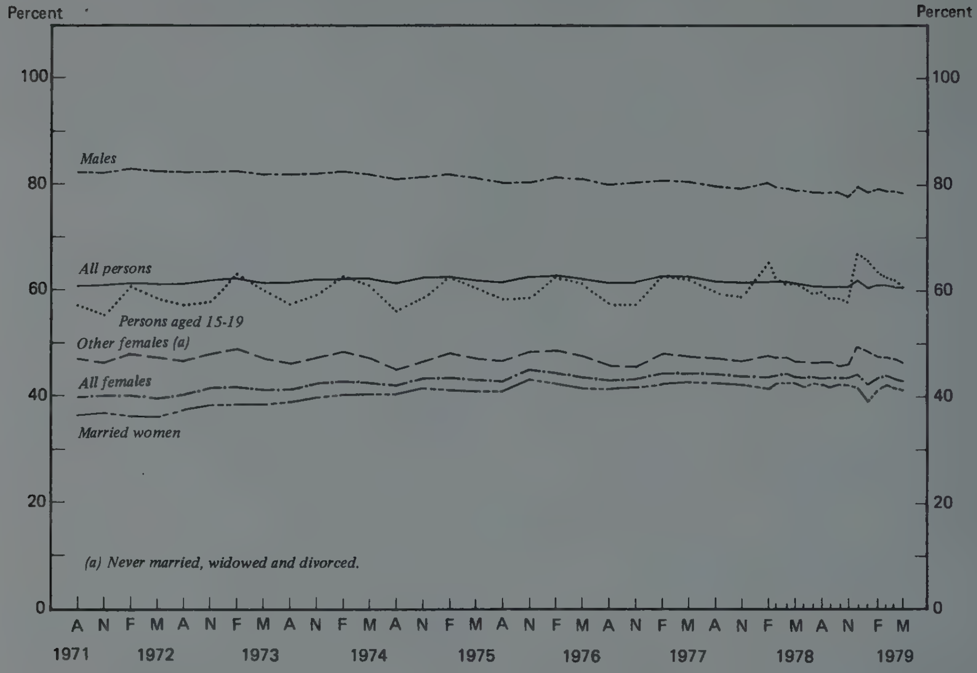
CIVILIAN LABOUR FORCE, BY EMPLOYMENT STATUS, BIRTHPLACE AND PERIOD OF ARRIVAL IN AUSTRALIA, MAY 1979

	Employed		*Unemployed*				*Labour force participation rate(b)*
	Full-time	*Total*	*Looking for full-time work*	*Total*	*Labour force*	*Unemployment rate(a)*	
			—'000—			—per cent—	
			MALES				
Born in Australia	2,700.7	2,867.7	145.3	155.4	3,023.1	5.1	79.1
Born outside Australia	998.1	1,040.6	52.4	55.2	1,095.7	5.0	80.6
Arrived before 1961	430.6	450.3	13.5	14.3	464.6	3.1	73.6
1961–1965	153.6	159.9	10.0	10.5	170.4	6.2	87.3
1966–1970	205.2	212.6	12.4	13.1	225.8	5.8	87.6
1971–1977	183.0	189.8	12.2	12.9	202.8	6.4	87.6
Jan. 1978 to May 1979	25.8	27.9	*	*	32.2	*	73.6
			MARRIED WOMEN				
Born in Australia	501.0	948.7	23.0	45.1	993.9	4.5	39.3
Born outside Australia	272.3	407.6	17.0	27.1	434.7	6.2	46.9
Arrived before 1961	89.6	152.3	5.5	9.0	161.3	5.6	38.2
1961–1965	46.8	70.4	5.2	*	74.8	*	53.7
1966–1970	63.9	89.6		4.7	94.4	5.0	57.6
1971–1977	65.7	86.3	4.7	6.8	93.1	7.3	53.6
Jan. 1978 to May 1979	6.3	8.9	*	*	11.1	*	40.5
			ALL FEMALES				
Born in Australia	1,017.4	1,597.7	101.9	136.8	1,734.6	7.9	43.0
Born outside Australia	375.3	537.3	35.6	49.1	586.4	8.4	46.2
Arrived before 1961	118.4	188.6	7.7	11.4	200.0	5.7	35.6
1961–1965	66.4	93.9	7.3	9.7	103.6	9.3	53.3
1966–1970	86.8	121.3	7.9	11.5	132.8	8.7	57.9
1971–1977	88.9	115.0	9.4	12.3	127.3	9.6	54.0
Jan. 1978 to May 1979	14.8	18.5	*	*	22.8	*	48.3
			PERSONS				
Born in Australia	3,718.1	4,465.5	247.1	292.2	4,757.7	6.1	60.6
Born outside Australia	1,373.4	1,577.9	88.0	104.3	1,682.2	6.2	64.0
Italy	n.a.	162.8	n.a.	8.0	170.9	4.7	63.6
Greece	n.a.	93.9	n.a.	7.5	101.4	7.4	68.4
Yugoslavia	n.a.	97.2	n.a.	5.8	103.0	5.6	73.1
U.K. and Ireland	n.a.	595.8	n.a.	38.5	634.3	6.1	61.5
New Zealand	n.a.	72.3	n.a.	6.9	79.1	8.7	72.5
Other	n.a.	555.9	n.a.	37.6	593.5	6.3	63.8
Arrived before 1961	549.0	639.0	21.2	25.7	664.7	3.9	55.7
1961–1965	220.0	253.8	17.4	20.2	274.0	7.4	70.3
1966–1970	292.0	333.9	20.2	24.6	358.5	6.9	73.6
1971–1977	271.9	304.8	21.5	25.2	330.0	7.6	70.6
Jan. 1978 to May 1979	40.6	46.4	7.7	8.6	55.0	15.6	60.5

(*a*) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (*b*) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group. Excludes persons in institutions. * Less than 4,500 or based on a figure less than 4,500. *See* page 153.

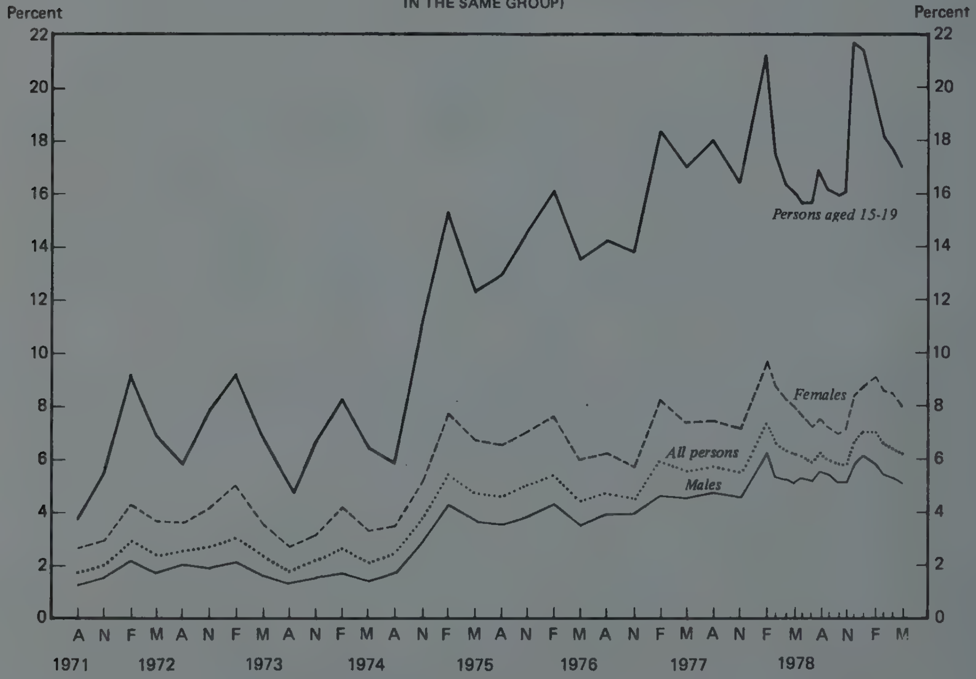
LABOUR FORCE PARTICIPATION RATES

(THE LABOUR FORCE IN EACH GROUP AS A PERCENTAGE OF THE CIVILIAN POPULATION AGED 15 YEARS AND OVER IN THE SAME GROUP)



UNEMPLOYMENT RATES

(THE UNEMPLOYED IN EACH GROUP AS A PERCENTAGE OF THE CIVILIAN LABOUR FORCE IN THE SAME GROUP)



NOTE. From February 1978 the population survey has been conducted monthly. Previously, surveys were conducted in February, May, August and November each year.

PLATES 30 and 31

CIVILIAN LABOUR FORCE, BY AGE, MAY 1979

Age groups (years)	*Number ('000)*				*Labour force participation rate (a) (per cent)*			
	Males	*Married women*	*All females*	*Persons*	*Males*	*Married women*	*All females*	*Persons*
15–19	416.5	17.3	363.9	780.4	63.6	53.1	57.9	60.8
20–24	548.2	167.4	414.8	963.0	91.1	54.6	69.1	80.1
25–34	1,100.7	446.2	573.0	1,673.7	96.2	46.2	50.4	73.4
35–44	832.1	421.9	477.3	1,309.4	96.0	56.9	57.6	77.2
45–54	716.5	275.1	337.6	1,054.1	91.8	43.8	45.5	69.2
55–59	288.3	71.1	98.3	386.6	81.3	25.3	27.5	54.3
60–64	151.4	23.4	40.6	192.0	54.3	11.3	13.5	33.1
65 and over	65.2	6.1	15.5	80.7	11.5	2.0	2.0	6.0
Total	**4,118.9**	**1,428.5**	**2,321.0**	**6,439.9**	**78.4**	**41.2**	**43.1**	**60.6**

(*a*) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

EMPLOYED PERSONS BY INDUSTRY AND AVERAGE HOURS WORKED, MAY 1979

Industry	*Number ('000)*			*Average hours worked (a)*		
	Males	*Females*	*Persons*	*Males*	*Females*	*Persons*
Agriculture and services to agriculture	283.1	78.8	361.8	50.9	29.8	46.3
Forestry, fishing and hunting	26.9	*	29.3	41.3	*	39.8
Mining	80.0	5.1	85.1	38.1	29.6	37.6
Manufacturing	913.3	303.7	1,216.9	39.2	33.5	37.8
Food, beverages and tobacco	141.9	46.8	188.7	38.4	32.0	36.8
Metal products, machinery and equipment	178.3	24.6	203.0	39.1	30.1	38.0
Other manufacturing	593.1	232.2	825.3	39.4	34.1	37.9
Construction	439.3	46.0	485.4	38.6	21.8	37.0
Wholesale and retail trade	709.0	531.1	1,240.1	41.4	29.6	36.3
Transport and storage	289.5	51.3	340.7	39.8	29.1	38.2
Finance, insurance, real estate and business services	269.8	215.2	484.9	39.6	30.7	35.6
Community services	341.3	564.7	906.1	37.3	29.0	32.1
Entertainment, recreation, restaurants, hotels and personal services	159.1	214.5	373.6	38.9	26.8	31.9
Other industries	397.1	122.3	519.4	35.2	30.4	34.1
Total	**3,908.3**	**2,135.0**	**6,043.3**	**39.9**	**29.7**	**36.3**

(*a*) Actual hours worked during the survey week, not hours paid for. The figures may be affected by public holidays, leave, absenteeism, absence from work due to sickness, injury, accident, industrial disputes, plant breakdown, etc. * Less than 4,500 or based on a figure less than 4,500. *See* page 153.

EMPLOYED PERSONS BY OCCUPATION, MAY 1979
('000)

Occupation	*Males*	*Married women*	*All females*	*Persons*
Professional, technical, and related workers	454.5	213.3	365.6	820.1
Administraive, executive and managerial	339.6	35.3	50.6	390.1
Clerical	327.8	419.7	702.8	1,030.5
Sales	277.4	163.0	290.7	568.1
Farmers, fishermen, timber-getters, etc.	348.8	67.0	80.7	429.6
Transport and communication	289.5	33.9	50.3	339.8
Tradesmen, production-process workers and labourers, n.e.c.; and miners, quarrymen, etc.	1,651.2	176.2	233.8	1,885.0
Service, sport and recreation	219.4	247.9	360.5	579.9
Total employed	**3,908.3**	**1,356.3**	**2,135.0**	**6,043.3**

PART-TIME WORKERS: WHETHER PREFERRED TO WORK MORE HOURS AND WHETHER LOOKING FOR FULL-TIME WORK, BY AGE, MAY 1979

('000)

	Age group (years)						
	15–19	*20–24*	*25–34*	*35–44*	*45–54*	*55 and over*	*Total*
MALES							
Total	**59.3**	**25.8**	**35.2**	**18.4**	**19.9**	**50.9**	**209.4**
Preferred not to work more hours	47.9	19.1	26.1	14.7	15.9	47.7	171.4
Preferred to work more hours	11.3	6.7	9.1	7.7		*	38.0
Had actively looked for full-time work(*a*)	5.6	6.4		*	*	*	16.1
MARRIED WOMEN							
Total	*	**31.1**	**195.7**	**190.3**	**115.6**	**49.0**	**583.0**
Preferred not to work more hours	*	25.7	176.1	171.6	106.9	47.3	529.0
Preferred to work more hours	5.5		19.6	18.6	8.7	*	54.1
Had actively looked for full-time work(*a*)	*	8.0			*	*	8.7
ALL FEMALES							
Total	**75.1**	**57.0**	**210.2**	**203.1**	**130.6**	**66.3**	**742.3**
Preferred not to work more hours	57.2	44.9	188.8	181.2	119.5	63.3	654.8
Preferred to work more hours	18.0	12.2	21.4	21.9	11.2	*	87.5
Had actively looked for full-time work(*a*)	9.3	4.7	*	5.2		*	22.4
PERSONS							
Total	**134.4**	**82.8**	**245.4**	**221.5**	**150.5**	**117.2**	**951.8**
Preferred not to work more hours	105.1	64.0	214.9	195.9	135.4	111.0	826.2
Preferred to work more hours	29.3	18.8	30.5	25.6	15.1	6.1	125.6
Had actively looked for full-time work(*a*)	15.0	7.5	6.8	8.4		*	38.6

(*a*) Had actively looked for full-time work in the four weeks up to the end of the survey week. * Less than 4,500. *See* page 153.

EMPLOYED PERSONS, BY HOURS WORKED (*a*), MAY 1979

('000)

	Males	*Married women*	*Other females (b)*	*All females*	*Persons*
Weekly hours worked (*a*)—					
0(*c*)	217.7	90.4	44.1	134.5	352.2
1–15	126.3	259.1	92.5	351.6	477.9
16–29	188.1	256.8	73.1	329.9	518.0
30–34	239.5	118.9	61.1	180.0	419.6
35–39	432.4	167.6	156.1	323.7	756.1
40	1,342.1	302.4	257.3	559.8	1,901.9
41–44	259.4	41.6	39.9	81.5	341.0
45–48	348.6	40.8	26.3	67.1	415.7
49 and over	754.1	78.6	28.3	107.0	861.1
Total	**3,908.3**	**1,356.3**	**778.7**	**2,135.0**	**6,043.3**

(*a*) The figures relate to hours worked, not hours paid for. The persons had actively looked for full-time work in the four weeks up to the survey week. (*b*) Never married, widowed or divorced. (*c*) Persons who had a job but were not at work.

UNEMPLOYED PERSONS, BY INDUSTRY AND OCCUPATION OF LAST FULL-TIME JOB MAY 1979

Industry division or sub-division(a)	*Total ('000)*	*Unemployment rate(b) (per cent)*
Had worked for two weeks or more in a full-time job in the last two years	245.1	3.9
Agriculture and services to agriculture	11.9	3.2
Manufacturing	60.3	4.7
Food, beverages and tobacco	15.4	7.6
Metal products	8.3	3.9
Other manufacturing	36.6	4.2
Construction	28.3	5.5
Wholesale and retail trade	61.6	4.7
Transport and storage	9.4	2.7
Finance, insurance, real estate and business services	12.7	2.6
Community services	22.0	2.4
Entertainment, recreation, restaurants, hotels and personal services	24.0	6.1
Other industries	14.8	2.3
Stood down(c)	6.7	..
Other(d)	144.7	..
Total	**396.6**	**6.2**

Occupation group	*Total ('000)*	*Unemployment rate(b) (per cent)*
Had worked for two weeks or more in a full-time job in the last two years	245.1	3.9
Professional, technical, etc.	14.6	1.7
Administrative, executive and managerial	4.5	1.1
Clerical	27.7	2.6
Sales	28.9	4.8
Farmers, fishermen, timber-getters, etc.	16.7	3.8
Miners, quarrymen, etc.	*	*
Transport and communication	8.5	2.4
Tradesmen, production-process workers and labourers, n.e.c.	112.6	5.7
Service, sport and recreation	29.8	4.9

(*a*) Classified according to the Australian Standard Industrial Classification, 1969. (*b*) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (*c*) Persons who were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the survey week (including the whole of the survey week) for reasons other than bad weather or plant breakdown. (*d*) Had never worked for two weeks or more in a full-time job, or had not done so in the last two years. Industry and occupation were not obtained from these persons. * Less than 4,500 or based on a figure less than 4,500. *See* page 153.

UNEMPLOYED PERSONS, BY DURATION OF UNEMPLOYMENT (*a*), BY AGE, ETC., MAY 1979

Duration of unemployment (weeks) (a)	*Age (years)* 15–19	20–24	25 and over	*Married*	*Not married (b)*	*Looking for—* Full-time work	Part-time work	*Total*
MALES								
			—'000—					
Under 2	*	*	7.0	5.3	7.9	11.5	5.8	13.2
2 and under 4	5.1	4.6	9.4	7.7	11.5	17.5		19.1
4 and under 8	9.2	9.2	12.9	8.8	22.5	29.0		31.3
8 and under 13	6.6	7.1	10.5	6.4	17.8	22.7	5.0	24.2
13 and under 26	16.7	7.8	19.2	13.2	30.5	40.9		43.7
26 and under 39	7.6	5.1	11.0	6.9	16.8	23.0		23.7
39 and under 52	5.4	5.9	6.3	4.6	5.8	10.4	*	10.4
52 and under 65			7.5	5.5	9.2	14.1	*	14.7
65 and over	5.5	6.1	18.7	12.5	17.8	28.7	*	30.3
Total	*59.6*	*48.6*	*102.4*	*70.8*	*139.8*	*197.7*	*13.0*	*210.6*
			—weeks—					
Average duration of unemployment	25.0	27.6	35.5	35.5	28.3	30.9	27.7	30.7
FEMALES								
			—'000—					
Under 2	5.2	7.6	10.0	10.9	8.0	10.0	8.9	18.9
2 and under 4	*		8.4	9.9	6.6	10.3	6.2	16.5
4 and under 8	8.3	6.0	11.2	12.7	12.8	17.6	8.0	25.5
8 and under 13	7.1	4.7	6.7	7.1	11.4	14.0	4.5	18.6
13 and under 26	24.1	10.3	15.1	14.1	35.4	38.6	10.9	49.5
26 and under 39	8.6	7.8	7.1	6.2	13.3	15.6	6.9	19.4
39 and under 52	6.6		4.6	*	4.8	5.4		6.2
52 and under 65				*	6.3	7.0		9.2
65 and over	8.7	4.7	8.8	7.0	15.2	19.0	*	22.1
Total	*72.9*	*41.1*	*72.0*	*72.2*	*113.8*	*137.5*	*48.5*	*186.0*
			—weeks—					
Average duration of unemployment	27.8	27.6	28.3	23.8	30.6	30.8	20.0	27.9
PERSONS								
			—'000—					
Under 2	8.6	6.5	17.0	16.2	15.9	21.5	10.7	32.2
2 and under 4	9.4	8.5	17.7	17.6	18.0	27.8	7.9	35.6
4 and under 8	17.5	15.2	24.1	21.5	35.3	46.5	10.3	56.8
8 and under 13	13.7	11.8	17.2	13.5	29.2	36.7	6.0	42.7
13 and under 26	40.9	18.0	34.3	27.2	66.0	79.5	13.7	93.2
26 and under 39	16.2	8.8	18.1	13.1	30.0	38.6	4.5	43.1
39 and under 52	5.4	*	7.9	6.0	10.6	15.8	*	16.6
52 and under 65	6.6	6.7	10.5	8.4	15.5	21.1	*	23.9
65 and over	14.2	10.7	27.5	19.5	33.0	47.7	4.8	52.5
Total	*132.5*	*89.7*	*174.4*	*143.0*	*253.5*	*335.1*	*61.4*	*396.6*
			—weeks—					
Average duration of unemployment	26.6	27.6	32.6	29.6	29.3	30.9	21.6	29.4

(*a*) Period from the time the person began looking for work, or was laid off, to the end of the survey week. Periods of unemployment are recorded in complete weeks and this results in a slight understatement of duration. (*b*) Never married, widowed and divorced. * Less than 4,500. *See* page 153.

Population survey reports

As explained earlier in this chapter, the labour force survey questions are regularly supplemented by additional questions on particular aspects of the labour force or of other subjects. A list of supplementary surveys is given below.

Title	*Catalogue number*
Alcohol and Tobacco Consumption Patterns, February 1977	4312.0
Annual Leave and Long Service Leave, Australia, August 1974, May 1979	6317.0
Assisted and Unassisted Migrants, August 1972	3406.0
Birth Expectations of Married Women, November 1976, June 1979	3215.0
Child Care, May: 1969, 1973, 1977	4402.0
Chronic Illnesses, Injuries and Impairments, May: 1968, 1974	4305.0
Employment Status of Teenagers, August 1978	6234.0
Evening and Night Work, November 1976	6329.0
Ex-Service Personnel, November: 1966, 1971; October 1979	4403.0
Family Status and Employment Status of the Population, November: 1974,1975; July 1979	6223.0
Frequency of Pay, August: 1974, 1976, 1977	6320.0
Health Insurance, March 1979	4335.0
Hearing and the Use of Hearing Aids, September 1978	4336.0
Home Ownership and Rental, November 1978	8710.0
Income Distribution, 1968–69 (Consolidated and Revised Edition)	6505.0
Income Distribution, 1973–74—	
Part 1 (Tables on Individuals)	6502.0
Part 2 (Tables on Families)	6503.0
Part 3 (Supplementary Tables)	6504.0
Internal Migration—	
1969–70 to 1972–73 (annually); Twelve months ended April: 1972, 1973 and 1974; December 1974; January 1977; September 1978; June 1979	3408.0
Job Tenure, February: 1974, 1975; August 1976	6211.0
Journey to Work and Journey to School, May 1970; August 1974	9205.0
Labour Force Experience—	
During 1968, 1972, 1974, 1975, 1976, 1978	6206.0
Labour Force Status and Other Characteristics of Families, November 1974	6224.0
Labour Mobility, November 1972; February: 1975, 1976, 1979	6209.0
Leavers from Schools, Universities and Other Educational Institutions, February 1964, 1965, 1966 and 1967; 1968, 1969 and 1970; 1971 to 1974 (annually); May 1975, 1976; August: 1977, 1978; May 1979	6227.0
Migrants in the Labour Force, 1972 to 1976	6230.0
Multiple Jobholding, November 1965; August: 1966, 1967; May 1971; August: 1973, 1975, 1977, 1979	6216.0
Non-School Study Courses, August 1968	Not Listed
Persons Covered by Hospital and Medical Expenditure Assistance Schemes, August 1972	4303.0
Persons Aged 15 to 64 Years, Employment Status and Period Since Leaving School, May 1976	6225.0
Persons Not in the Labour Force (Including Discouraged Jobseekers), November 1975; May 1977; March 1979; September 1979	6220.0
Persons Looking for Work, May 1976; November 1976; May 1977; July: 1978, 1979	6222.0
School Leavers, 1970-1974, Their Employment Status and Education Experience in May 1975	6226.0
Superannuation, Survey of, February 1974	6319.0
The Labour Force, Country of Birth and Period of Residence, February 1972	6207.0
The Labour Force, Educational Attainment, Australia, February 1979	6235.0
Trade Union Members, November 1976	6325.0
Weekly Earnings of Employees (Distribution), August 1975 to 1979 (annually)	6310.0
Work Patterns of Employees, November 1976	6328.0

Job vacancies

Sample surveys of job vacancies were conducted by the Australian Bureau of Statistics in March each year from 1974 to 1978 and quarterly from May 1977 to May 1978. The annual and quarterly surveys were suspended in March and May 1978 respectively as part of the measures necessary to bring the activities of the ABS within the resources available to it at that time. The quarterly surveys have been reintroduced as from May 1979, but it is not intended at present to reintroduce the annual surveys. A summary of the results of some of these surveys is shown in the table below. More detailed information and explanatory notes are contained in *Job Vacancies, March 1978* (6218.0) and *Job Vacancies, August 1979* (6231.0).

JOB VACANCIES

	Annual surveys					*Quarterly surveys*			
	March								
	1974	*1975*	*1976*	*1977*	*1978*	*May 1977*	*May 1978*	*May 1979(a)*	*August 1979(a)*
NUMBER OF VACANCIES ('000)									
For males	106.4	31.7	27.8	27.5	17.9	18.6	13.2	14.8	13.7
For females	39.2	11.3	11.1	7.9	4.9	8.1	5.8	6.2	5.8
For males and females(*b*)	19.7	12.2	11.8	14.2	13.5	12.6	13.2	13.3	13.4
Total	**165.2**	**55.2**	**50.8**	**49.6**	**36.3**	**39.3**	**32.2**	**34.3**	**33.0**
JOB VACANCY RATE (PERCENT)(*c*)									
Persons	3.6	1.3	1.2	1.2	0.8	0.9	0.8	0.8	0.8

(*a*) Not directly comparable with earlier series due to change in definition of vacancies in government employment. (*b*) Vacancies for males and females are those jobs open to male or female applicants without preference. (*c*) The job vacancy rate is calculated by expressing the number of job vacancies as a percentage of the number of employees plus vacancies.

CIVILIAN EMPLOYEES

The revision of the civilian employees series, referred to in the 1979 Year Book, No. 63, has been undertaken and estimates on the revised basis are included herein.

The figures in this section generally relate only to civilian wage and salary earners, not the total labour force: they therefore exclude employers, self-employed persons, unpaid helpers and the unemployed. Also excluded, because of the inadequacy of current data, are wage and salary earners in agriculture and private households employing staff. Defence forces are included in the table on page 163.

Employment estimates, except those relating to government employees and defence forces, are based on comprehensive data (referred to herein as 'benchmarks') derived for the purpose from the population censuses and other sources. The data needed to derive the estimates for periods subsequent to the benchmark date are obtained from three main sources, namely, (a) current payroll tax returns; (b) current returns from government bodies; and (c) some other current returns of employment (e.g. for hospitals); the balance, i.e. unrecorded private employment, is estimated. At June 1979 recorded employment obtained from the foregoing sources accounted for about 85 per cent of the employees in the industries covered, as determined by the benchmarks.

Although the series generally measure reasonably well the short-term trends in employment in the defined field, they may be less reliable for longer-term measurement. There are conceptual differences between benchmark and current data, and changes in such factors as labour turnover, multiple job-holding and part-time working all affect the trend over longer periods.

Revision of Series

As mentioned above the figures contained in this issue are on a revised basis and are not compatible with figures contained in previous issues. The revisions were made on the basis of data obtained from the 1971 and 1976 population censuses, labour force surveys, economic censuses and surveys, payroll tax returns, returns from government bodies and other employment returns.

This issue contains a summary of the revised estimates for June of each year from 1971. More detailed estimates and an explanation of the methods used to revise them may be found in *Civilian Employees, Australia, July 1979* (6213.0). The complete series of revised estimates for the period June 1971 to June 1979, plus a corresponding series of main aggregates for the period June 1966 to May 1971, based on revised 1966 and 1971 benchmarks, have been issued in a publication entitled *Civilian Employees, Australia, June 1966 to June 1979* (6214.0).

Concepts and Definitions

The concepts and definitions used for these estimates are those adopted at the 1976 population census, which conformed closely to the recommendations of the Eighth International Conference of Labour Statisticians (Geneva, 1954). At the census the following questions were asked in respect of all persons fifteen years of age and over:

'Did the person do any work at all last week?'

For those who did not work or did only unpaid work, a further question was asked:

'Did the person have a full-time or part-time job, business, profession or farm of any kind last week?'

Provided they had not been temporarily laid off by their employer without pay for the whole of the week, persons who answered 'Yes' to either of these questions were classified as employed. Persons in this category were classified as wage and salary earners if on their census schedule they were stated to be 'a wage or salary earner' in the job they held in the previous week.

Current data supplied by reporting enterprises or establishments generally refer to persons on the payroll for the last pay-period in each month. Persons who are on paid leave or who work during part of the pay period and are unemployed or on strike during the rest of the period are generally counted as employed. Those not shown on employers' payrolls because they are on leave without pay, on strike or stood down for the entire period are excluded.

In all States and Territories most employers paying wages in excess of a designated exemption level are required to lodge payroll tax returns. Certain Commonwealth Government bodies, religious and benevolent institutions, public hospitals and other similar organisations are specifically exempted under the various Payroll Tax Acts. The following table shows details of recent exemption levels (in dollars per week):

Period	*N.S.W. and Vic.*	*Qld*	*S.A. and Tas.*	*W.A.*	*N.T. and A.C.T.*
Before January 1976 . . .	400	400	400	400	400
January to December 1976 .	800	800	800	800	400
January to June 1977 . . .	923	1,200	923	923	923
July to November 1977 . .	923	1,600	923	923	923
December 1977	923	1,600	923	1,154	923
January to June 1978 . . .	1,154	1,923	1,154	1,154	923
July to December 1978 . .	1,154	2,404	1,154	1,154	1,154
January to December 1979 .	1,269	2,404	1,154	1,154	1,269

Private and Government employees

Government employees comprise not only administrative employees but also all other employees of government bodies (Commonwealth, State, local and semi-government) on services such as railways, road transport, banks, postal and telecommunications, air transport, education (including universities, colleges of advanced education, etc.), radio, television, police, public works, factories, marketing authorities, public hospitals (other than those run by charitable or religious organisations) and departmental hospitals and institutions.

CIVILIAN EMPLOYEES AND DEFENCE FORCES

(Excluding employees in agriculture and private domestic service)

('000)

	Civilian employees							
		Government(a)						
June—	*Private*	*Common-wealth*	*State*	*Local*	*Total*	*Total*	*Defence Forces(b)*	*Total*
				MALES				
1971	2,189.3	249.8	494.9	92.2	836.8	3,026.0	80.5	3,106.5
1972	2,176.6	253.9	508.6	102.4	864.9	3,041.5	78.3	3,119.8
1973	(*c*)2,201.0	262.3	517.5	105.9	885.6	(*c*)3,086.6	71.0	(*c*)3,157.6
1974	2,275.3	270.4	528.1	98.8	897.3	3,172.6	64.7	3,237.3
1975	(*c*)2,196.9	280.2	554.7	121.1	955.9	(*c*)3,152.9	65.8	(*c*)3,218.7
1976	2,190.1	275.5	560.1	101.5	937.1	3,127.2	65.3	3,192.5
1977	2,168.6	272.2	574.7	102.3	949.2	3,117.8	66.3	3,184.1
1978	(*c*)2,126.2	281.6	576.2	103.3	961.1	(*c*)3,087.2	66.1	(*c*)3,153.3
1979	2,140.8	(*d*)276.1	579.5	102.8	(*e*)964.4	3,105.2	66.2	3,171.4
				FEMALES				
1971	1,201.8	88.9	260.6	15.3	364.8	1,566.6	2.7	1,569.3
1972	1,212.5	92.5	273.0	15.9	381.3	1,593.8	2.8	1,596.6
1973	1,283.5	97.9	285.7	17.1	400.7	1,684.2	3.1	1,687.3
1974	1,367.7	108.3	311.4	17.9	437.6	1,805.3	2.9	1,808.2
1975	1,297.5	118.6	341.2	19.9	479.7	1,777.2	3.4	1,780.6
1976	1,311.2	115.5	359.3	19.8	494.6	1,805.8	3.6	1,809.4
1977	1,303.2	116.6	377.8	21.7	516.1	1,819.3	3.8	1,823.1
1978	1,298.7	120.5	392.0	23.6	536.1	1,834.8	3.7	1,838.5
1979	1,325.4	(*d*)119.8	402.3	24.7	(*e*)550.7	1,876.1	4.0	1,880.1

CIVILIAN EMPLOYEES AND DEFENCE FORCES—*continued*

(Excluding employees in agriculture and private domestic service)

('000)

June—	*Civilian employees*							
		Government(a)						
	Private	*Common-wealth*	*State*	*Local*	*Total*	*Total*	*Defence Forces(b)*	*Total*
				PERSONS				
1971	3,391.1	338.7	755.5	107.4	1,201.6	4,592.6	83.2	4,675.8
1972	3,389.1	346.3	781.6	118.3	1,246.2	4,635.3	81.1	4,716.4
1973	(*c*)3,484.5	360.2	803.2	122.9	1,286.4	(*c*)4,770.9	74.1	(*c*)4,845.0
1974	3,642.9	378.7	839.5	116.7	1,334.9	4,977.8	67.6	5,045.4
1975	(*c*)3,494.4	398.7	895.9	141.0	1,435.7	(*c*)4,930.1	69.2	(*c*)4,999.3
1976	3,501.2	391.0	919.5	121.3	1,431.7	4,933.0	68.9	5,001.9
1977	3,471.8	388.8	952.5	124.0	1,465.2	4,937.0	70.1	5,007.1
1978	(*c*)3,424.9	402.1	968.2	126.9	1,497.2	(*c*)4,922.1	69.8	(*c*)4,991.9
1979	3,466.2	(*d*)395.9	981.8	127.5	(*e*)1,515.1	4,981.3	70.2	5,051.5

(*a*) Includes industrial as well as administrative employees. *See* explanation above. (*b*) Permanent defence forces in Australia and overseas. (*c*) Affected by industrial dispute. (*d*) Excludes employees transferred to the Northern Territory Public Service. (*e*) Includes 6,300 male and 3,900 female employees of the Northern Territory Public Service not shown separately.

Industry

The industry classification used in this section is the *Australian Standard Industrial Classification (ASIC)*, described in the Bureau publication *Australian Standard Industrial Classification (Preliminary Edition), 1969, Volume 1* (1201.0).

CIVILIAN EMPLOYEES: PRINCIPAL INDUSTRIES

(Excluding defence forces and employees in agriculture and private domestic service)

('000)

	June—								
ASIC Division(a)	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*
					MALES				
Forestry, fishing and hunting (*b*)	14.1	14.7	14.8	14.5	15.6	14.3	14.4	14.2	14.2
Mining	69.8	69.7	69.7	71.1	74.7	72.6	73.0	(*c*)68.7	70.5
Manufacturing	964.5	949.3	(*c*)948.8	968.9	906.4	903.4	888.5	864.6	871.2
Electricity, gas and water	90.4	91.0	90.9	91.0	92.5	92.2	93.7	96.0	97.6
Construction	375.9	379.0	375.8	379.5	(*c*)391.8	356.4	347.6	337.4	325.7
Wholesale and retail trade	540.8	542.9	558.4	572.6	561.5	569.5	571.0	565.5	566.7
Transport and storage	224.3	221.0	223.7	234.4	239.1	235.5	233.5	232.3	233.8
Communication	88.4	89.9	92.8	96.0	97.5	96.5	95.4	95.3	94.7
Finance, insurance, real estate and business services	199.4	200.9	206.8	217.6	212.8	212.3	213.7	213.5	218.0
Public administration and defence(*d*)	126.3	132.4	138.3	142.9	154.1	153.9	153.6	155.4	156.8
Community services	232.8	248.6	260.4	272.3	288.8	300.9	313.7	323.7	332.4
Entertainment, recreation, restaurants, hotels and personal services(*e*)	99.3	102.0	106.3	111.7	117.8	119.5	119.7	120.5	123.6
Total	*3,026.0*	*3,041.5*	*(c)3,086.6*	*3,172.6*	*(c)3,152.9*	*3,127.2*	*3,117.8*	*(c)3,087.2*	*3,105.2*
					FEMALES				
Forestry, fishing and hunting(*b*)	0.7	0.8	0.8	1.0	0.9	1.2	1.1	1.0	1.3
Mining	5.7	5.5	5.5	5.5	6.0	5.6	5.9	6.0	6.3
Manufacturing	352.4	341.0	352.4	374.8	313.8	313.8	295.9	288.1	293.6
Electricity, gas and water	8.9	8.8	8.9	9.1	9.2	9.2	9.2	9.6	10.0
Construction	17.8	18.3	19.4	20.6	19.8	20.0	19.9	19.8	20.4
Wholesale and retail trade	372.6	381.6	406.6	430.7	417.6	418.7	418.8	418.8	430.9
Transport and storage	34.4	34.1	35.4	38.4	38.3	37.9	38.8	39.0	40.9
Communication	26.2	26.6	27.3	29.5	29.7	29.4	29.2	29.7	30.2
Finance, insurance, real estate and business services	171.5	171.6	181.8	195.6	191.1	193.4	198.4	200.1	206.2
Public administration and defence(*d*)	58.6	62.7	68.2	76.1	88.7	89.5	92.4	96.0	98.5
Community services	365.4	391.2	417.8	453.2	488.1	515.4	538.2	556.1	564.6
Entertainment, recreation, restaurants, hotels and personal services(*e*)	152.6	151.8	160.2	170.5	174.1	171.8	171.3	170.6	173.3
Total	*1,566.6*	*1,593.8*	*1,684.2*	*1,805.3*	*1,777.2*	*1,805.8*	*1,819.3*	*1,834.8*	*1,876.1*

CIVILIAN EMPLOYEES: PRINCIPAL INDUSTRIES—*continued*

(Excluding defence forces and employees in agriculture and private domestic service)

('000)

	June—								
ASIC Division(a)	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*
					PERSONS				
Forestry, fishing and hunting(*b*)	14.7	15.4	15.6	15.6	16.5	15.5	15.5	15.2	15.5
Mining	75.5	75.2	75.1	76.6	80.7	78.3	78.9	(*c*)74.7	76.7
Manufacturing	1,316.9	1,290.3	(*c*)1,301.2	1,343.8	1,220.2	1,217.2	1,184.4	1,152.7	1,164.8
Electricity, gas and water	99.3	99.8	99.8	100.1	101.7	101.3	102.9	105.7	107.6
Construction	393.7	397.3	395.2	400.1	(*c*)411.6	376.4	367.5	357.2	346.1
Wholesale and retail trade	913.5	924.5	965.1	1,003.3	979.1	988.2	989.8	984.3	997.6
Transport and storage	258.8	255.1	259.1	272.8	277.4	273.4	272.4	271.3	274.7
Communication	114.6	116.5	120.1	125.5	127.2	125.9	124.6	125.1	124.9
Finance, insurance, real estate and business services	370.8	372.4	388.5	413.2	403.9	405.7	412.1	413.6	424.2
Public administration and defence(*d*)	184.9	195.2	206.5	219.0	242.8	243.4	246.0	251.4	255.3
Community services	598.2	639.8	678.2	725.4	777.0	816.3	851.9	879.8	897.0
Entertainment, recreation, restaurants, hotels and personal services(*e*)	251.9	253.8	266.4	282.2	291.9	291.3	291.0	291.1	296.8
Total	**4,592.6**	**4,635.3**	**(*c*)4,770.9**	**4,977.8**	**(*c*)4,930.1**	**4,933.0**	**4,937.0**	**(*c*)4,922.1**	**4,981.3**

(*a*) Australian Standard Industrial Classification. (*b*) Excludes ASIC Sub-divisions 01 (Agriculture) and 02 (Services to agriculture). (*c*) Affected by industrial disputes. (*d*) Excludes members of the permanent defence forces. (*e*) Excludes ASIC Sub-division 94 (Private households employing staff).

CIVILIAN EMPLOYEES OF GOVERNMENT BODIES: JUNE 1979(*a*)

(Excluding defence forces and employees in agriculture and private domestic service)

('000)

	Commonwealth Government			*State Government(b)*			*Local Government(b)*			*Total(b)*		
State or Territory	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
New South Wales	86.5	36.8	123.3	193.2	137.9	331.2	48.1	7.4	55.5	327.8	182.2	510.0
Victoria	69.1	27.8	96.9	153.6	106.7	260.4	20.3	11.3	31.6	243.1	145.9	388.9
Queensland	29.5	12.6	42.1	94.7	52.1	146.8	18.5	2.4	20.9	142.7	67.1	209.8
South Australia	30.7	8.1	38.8	55.5	46.6	102.2	5.6	1.4	7.0	91.9	56.1	148.0
Western Australia	16.2	6.9	23.1	62.4	43.0	105.4	7.3	1.7	9.0	85.9	51.7	137.5
Tasmania	7.4	2.3	9.7	20.0	15.9	35.9	2.7	0.5	3.2	30.1	18.7	48.8
Northern Territory	3.7	3.1	6.8	..	..	..	0.3	..	0.4	(*d*)10.0	(*d*)7.0	(*d*)17.0
Australian Capital Territory(*c*)	33.0	22.1	55.1	..	..	..	..	..	..	33.0	22.1	55.1
Australia	**276.1**	**119.8**	**395.9**	**579.5**	**402.3**	**981.8**	**102.8**	**24.7**	**127.5**	**(*d*)964.4**	**(*d*)550.7**	**(*d*)1,515.1**

(*a*) Includes semi-government bodies. See explanation on page 163. (*b*) Excludes State and local government employees engaged in agriculture and services to agriculture. (*c*) Includes persons employed in the Australian Capital Territory who reside in adjoining areas. (*d*) Includes 6,300 male and 3,900 female employees of the Northern Territory Public Service not shown separately.

INCOME, EARNINGS AND HOURS

Industrial Conciliation and Arbitration

General

Legal minimum rates of pay for most Australian wage and salary earners (90 percent in 1976) are prescribed in awards and determinations of Federal and State industrial arbitration tribunals or in collective agreements registered with them. (In 1976 less than one percent of employees were affected by unregistered collective agreements.)

The main tribunals operative at the end of 1978 were as follows:

- *Federal Tribunals:* Australian Conciliation and Arbitration Commission, Public Service Arbitrator, Flight Crew Officers' Industrial Tribunal, Coal Industry Tribunal.
- *New South Wales Tribunals:* Industrial Commission of New South Wales, Public Service Board of New South Wales.
- *Victorian Tribunals:* Wages Boards, Industrial Appeals Court, Public Service Board, Teachers Tribunal, Police Service Board.

- *Queensland Tribunals:* Industrial Conciliation and Arbitration Commission of Queensland.
- *South Australian Tribunals:* Industrial Commission, Conciliation Committees, Public Service Arbitrator, Teachers Salaries Board.
- *Western Australian Tribunals:* Western Australian Industrial Commission, Western Australian Coal Industry Tribunal, Public Service Arbitrator, Railway Classification Board, Government School Teachers Tribunal.
- *Tasmanian Tribunals:* Industrial Boards, Public Service Board, Public Service Arbitrator.

Federal tribunals

The Australian Conciliation and Arbitration Commission has jurisdiction in respect of the prevention and settlement of industrial disputes extending beyond the limits of any one State. The Commission consists of a President, Deputy Presidents and Commissioners. The work of the Commission is normally done by individual members; however, certain matters such as standard hours, national wage cases, the minimum wage, equal pay principles, annual leave and long service leave must be determined by a Full Bench of the Commission consisting of a number of Presidential members and Commissioners. A Full Bench of the Commission also deals with appeals and references from single members of the Commission and from the Public Service Arbitrator. Where a State law or an award, etc. of a State Tribunal is inconsistent with a Federal award, etc., the latter prevails to the extent of the inconsistency.

Conditions of employment of Federal government employees are regulated by determinations of the Australian Public Service Arbitrator and the Deputy Arbitrators. Appeals and references may be made to the Australian Conciliation and Arbitration Commission.

The Flight Crew Officers' Industrial Tribunal is empowered to prevent and settle industrial disputes involving pilots, navigators and flight engineers of aircraft.

The Coal Industry Tribunal was established under the authority of Federal and New South Wales legislation, and is empowered to determine interstate and New South Wales disputes in the coal mining industry.

State tribunals

State tribunals have jurisdiction over industrial disputes confined within their own State boundaries. For details of the composition and operation of the State tribunals listed above, reference should be made to the various State Year Books.

Determination of rates of pay

The awards, etc. of the various Federal and State tribunals prescribe minimum rates of pay, standard hours of work and other conditions of employment for particular occupations. Most awards also prescribe a minimum wage for adult males and for adult females, i.e. the minimum amount which must be paid to an adult employee, regardless of occupation, for working the standard weekly hours of work. In all awards, etc. except those of Western Australia tribunals, the minimum wage is the same amount for adult females and adult males. The concept of equal pay for the sexes is applicable in most Federal and State awards. In recent years the wage fixing principles of the Australian Conciliation and Arbitration Commission have generally been followed by State tribunals.

In April 1975, the Australian Conciliation and Arbitration Commission decided to introduce wage indexation in the form of quarterly adjustments to award wages based on increases in the Consumer Price Index (*see* Year Book No. 61, page 298).

Following the completion of the Wage Fixation Principles Inquiry, a Full Bench of the Commission decided on 14 September 1978 to hold future wage indexation hearings at six-monthly intervals, in each April and October, beginning in October 1978. Indexation increases of 4.0 per cent and 3.2 per cent were granted in December 1978 and June 1979 respectively. These increases were applied to all rates of pay prescribed in awards of the Commission, including rates of minimum wage for adults. At 30 June 1979, the six capital cities' minimum wage was $123.90 a week.

State tribunals generally granted similar wage increases to those of the Australian Commission, including wage indexation increases. For details of increases in Federal and State awards, etc., and for rates of minimum wage for adult males and adult females, *see Wage Rates* (6312.0).

For details of wage determination in earlier periods *see* previous issues of the Year Book, the *Labour Report* (last issue 1973) and the 1975 to 1978 issues of *Labour Statistics* (6101.0).

Rates of wage

This section contains indexes (with base: year 1954 = 100.0) of minimum weekly and hourly rates of wage for adult males and adult females for Australia and each State.

In the indexes there are fifteen industry groups for adult males and eight industry groups for adult females. The indexes are based on the occupation structure existing in 1954. Weights for each industry and each occupation were derived from two sample surveys made in that year: a Survey of Awards and a Survey of Award Occupations. Revised indexes based on a more up-to-date weighting pattern, with a more recent base period and a wider scope are currently being developed.

The minimum wage rates used in the indexes are for representative occupations within each industry. They have been derived entirely from representative awards, determinations and collective agreements in force at the end of each month or quarter, commencing with March 1939 for adult males and March 1951 for adult females. Particulars have been available as at the end of each month for adult males from January 1957 and for adult females from July 1967. The index for adult males includes rates and hours for 3,415 award designations. However, as some of these designations are operative within more than one industry or in more than one State, the total number of individual award occupations is 2,313. For adult females the corresponding numbers are 1,100 and 515. Using the industry and the occupation weights derived from the 1954 surveys mentioned above, these rates and hours were combined to give weighted averages for each industry group for each State and Australia.

Because the indexes are designed to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, etc. which relate solely or mainly to salary earners are excluded.

Further particulars of wage rates and index numbers will be found in publications *Minimum Wage Rates,* March 1939 to June 1965 (6313.0), *Wage Rates Indexes,* June 1965 to June 1968 (6314.0) and *Wage Rates Indexes,* June 1968 to June 1972 (6314.0). Current figures are published in the monthly publications *Wage Rates* (6312.0) and *Wage Rates Indexes* (*Preliminary Statement*) (6311.0).

Weighted average minimum weekly wage rates for adult males and adult females covered by Federal awards, etc. and those covered by State awards, etc. (as defined below) are shown separately in the following table. For the purposes of the index, Federal awards, etc. include awards of or collective agreements registered with the Australian Conciliation and Arbitration Commission, and determinations of the Australian Public Service Arbitrator. State awards, etc. include awards or determinations of or collective agreements registered with State industrial tribunals, together with certain unregistered collective agreements when these are dominant in the particular industries to which they refer.

WEEKLY WAGE RATES: ALL GROUPS(*a*)

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(*b*) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

	Rates of wage ($)			*Index Nos.* (*Base 1954 = 100.0*)
End of December—	*Federal awards, etc.*	*State awards, etc.*	*All awards, etc.*	*All awards, etc.*
		ADULT MALES		
1973	77.28	78.13	77.69	275.1
1974	105.64	105.51	105.57	373.8
1975	119.24	116.39	117.95	417.6
1976	135.98	134.45	135.29	479.0
1977	149.42	148.67	149.08	527.9
1978p	161.95	159.49	160.84	569.5
		ADULT FEMALES		
1973	62.65	67.33	65.16	327.3
1974	87.62	95.09	91.62	460.2
1975	102.76	113.69	108.61	545.6
1976	119.14	131.49	125.75	631.7
1977	131.94	144.84	138.85	697.4
1978p	141.80	155.27	149.01	748.5

(*a*) Excludes rural industry. (*b*) As prescribed in awards, determinations and collective agreements.

The following table shows for Australia the weighted average minimum weekly rates of wage and index numbers in each industry group and for all groups (excluding rural industry) at the dates specified.

WEEKLY WAGE RATES: ADULT MALES, INDUSTRIES

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(*a*) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

	End of December—					
Industry	*1973*	*1974*	*1975*	*1976*	*1977*	*1978p*
RATES OF WAGE(*b*) ($)						
Mining and quarrying(*c*)	82.16	122.79	147.00	168.02	185.37	199.26
Manufacturing—						
Engineering, metals, vehicles, etc.	73.40	101.40	110.38	126.83	140.00	153.54
Textiles, clothing and footwear	72.76	92.22	108.41	124.27	137.09	147.24
Food, drink and tobacco	76.38	101.83	114.90	132.39	145.89	156.97
Sawmilling, furniture, etc.	72.60	101.51	111.77	128.15	141.49	151.36
Paper, printing, etc.	82.55	107.02	119.16	136.74	150.26	161.24
Other manufacturing	76.25	101.77	112.99	129.92	143.36	154.55
All manufacturing	*74.76*	*101.17*	*111.96*	*128.64*	*141.93*	*154.01*
Building and construction	79.32	110.92	127.14	146.11	160.38	171.09
Railway services	71.77	101.94	108.96	124.40	138.31	147.77
Road and air transport	77.25	107.48	116.52	133.29	146.68	159.39
Shipping and stevedoring(*d*)	93.89	118.19	144.80	164.17	179.58	192.38
Communication	102.57	130.75	141.67	160.85	175.98	188.39
Wholesale and retail trade	78.76	105.75	117.58	134.99	148.84	160.73
Public authority n.e.i. and community and business services	81.98	104.19	120.15	138.34	151.95	162.54
Amusement, hotels, personal service, etc.	72.38	97.66	108.96	124.98	137.89	148.20
All industries(*e*)	**77.69**	**105.57**	**117.95**	**135.29**	**149.08**	**160.84**
INDEX NUMBERS (*Base: Weighted Average Minimum Weekly Wage Rate for Australia, Year* 1954 = 100.0)						
Minining and quarrying(*c*)	290.9	434.8	520.5	594.9	656.3	705.5
Manufacturing—						
Engineering, metals, vehicles, etc.	259.9	359.0	390.8	449.1	495.7	543.7
Textiles, clothing and footwear	257.6	326.5	383.9	440.0	485.4	521.3
Food, drink and tobacco	270.5	360.6	406.9	468.4	516.6	555.8
Sawmilling, furniture, etc.	257.1	359.4	395.8	453.8	501.0	535.9
Paper, printing, etc.	292.3	378.9	421.9	484.2	532.1	570.9
Other manufacturing	270.0	360.4	400.1	460.0	507.6	547.2
All manufacturing	*264.7*	*358.2*	*396.4*	*455.5*	*502.6*	*545.3*
Building and construction	280.9	392.7	450.2	517.4	567.9	605.8
Railway services	254.1	360.9	385.8	440.5	489.7	523.2
Road and air transport	273.5	380.6	412.6	471.9	519.4	564.4
Shipping and stevedoring(*d*)	332.5	418.5	512.7	581.3	635.9	681.2
Communication	363.2	463.0	501.6	569.6	623.1	667.0
Wholesale and retail trade	278.9	374.5	416.3	478.0	527.0	569.1
Public authority n.e.i. and community and business services	290.3	368.9	425.4	489.8	538.0	575.1
Amusement, hotels, personal service, etc.	256.3	345.8	385.8	442.5	488.3	524.8
All industries(*e*)	**275.1**	**373.8**	**417.6**	**479.0**	**527.9**	**569.5**

(*a*) As prescribed in awards, determinations and collective agreements. (*b*) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (*c*) For mining, rates of wage used are those prescribed for the principal mining centres and include lead bonuses, etc. (*d*) Includes rates of wage (and value of keep) for occupations in the coastal shipping service, other than masters, officers and engineers. (*e*) Excludes rural industry.

The following table shows for Australia weighted average minimum weekly rates of wage and index numbers in each of the industry groups in which the number of females employed is important, and the weighted average for all groups combined, at the dates specified.

WEEKLY WAGE RATES: ADULT FEMALES, INDUSTRIES

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(*a*) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

	End of December—					
Industry	*1973*	*1974*	*1975*	*1976*	*1977*	*1978p*
RATES OF WAGE(*b*) ($)						
Manufacturing—						
Engineering, metals, vehicles, etc.	65.65	93.31	106.85	123.32	136.19	147.95
Textiles, clothing and footwear	58.97	81.09	101.11	118.55	131.07	140.18
Food, drink and tobacco	62.06	91.36	107.29	124.30	137.30	147.66
Other manufacturing	62.06	90.60	107.04	123.32	136.20	146.05
All manufacturing	*61.24*	*86.67*	*104.22*	*121.19*	*133.91*	*143.82*
Transport and communication	74.17	100.55	112.49	129.26	142.31	152.45
Wholesale and retail trade	68.31	98.07	115.21	133.28	147.14	157.80
Public authority n.e.i. and community and business services	71.81	94.69	113.77	131.49	144.77	155.33
Amusement, hotels, personal service, etc.	63.85	90.28	105.06	120.36	133.09	142.76
All industries(*c*)	**65.16**	**91.62**	**108.61**	**125.75**	**138.85**	**149.01**
INDEX NUMBERS (*Base: Weighted Average Minimum Weekly Wage Rate for Australia, Year* 1954 = 100.0)						
Manufacturing—						
Engineering, metals, vehicles, etc.	329.8	468.7	536.7	619.5	683.9	743.2
Textiles, clothing and footwear	296.2	407.3	507.9	595.5	658.4	704.1
Food, drink and tobacco	311.7	458.9	538.9	624.4	689.7	741.7
Other manufacturing	311.7	455.1	537.7	619.4	684.2	733.6
All manufacturing	*307.6*	*435.4*	*523.5*	*608.7*	*672.6*	*722.4*
Transport and communication	372.5	505.1	565.1	649.3	714.9	765.8
Wholesale and retail trade	343.1	492.6	578.7	669.5	739.2	792.7
Public authority n.e.i. and community and business services	360.7	475.6	571.5	660.5	726.7	780.3
Amusement, hotels, personal service, etc.	320.7	453.5	527.7	604.6	668.5	717.1
All industries(*c*)	**327.3**	**460.2**	**545.6**	**631.7**	**697.4**	**748.5**

(*a*) As prescribed in awards, determinations and collective agreements. (*b*) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (*c*) Excludes rural industry; mining and quarrying; and building and construction.

The average rates of wage in the preceding tables are based on the minimum rates prescribed for selected occupations in awards, etc. for a full week's work, excluding overtime. However, the number of hours constituting a full week's work differs in some instances between the various occupations in each State, and between the same occupations in the several States. For some purposes a better comparison may be obtained by reducing the results in the preceding paragraphs to a common basis, namely the rate of wage per hour. The particulars of weighted average minimum hourly rates of wage for adult males given in the following tables relate to all industries except the rural industry and shipping and stevedoring; for adult females the rates exclude rural industry, mining and quarrying, and building and construction.

HOURLY WAGE RATES: ALL GROUPS(*a*)

WEIGHTED AVERAGE MINIMUM HOURLY RATES PAYABLE AND INDEX NUMBERS OF HOURLY RATES

	Adult males		Adult females	
End of December—	*Rates of wage (cents)(b)*	*Index numbers(c)*	*Rates of wage (cents)(b)*	*Index numbers(c)*
1973	193.78	273.9	164.25	327.4
1974	263.97	373.1	230.95	460.3
1975	294.06	415.6	273.78	545.7
1976	337.70	477.3	316.99	631.8
1977	372.44	526.4	350.00	697.6
1978p	401.90	568.1	375.61	748.7

(*a*) *See* text above. (*b*) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (*c*) Base: weighted average minimum hourly wage rate, Australia, 1954 = 100.0.

Standard hours of work

In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work (excluding overtime) for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages shown below. The main features of the reduction of hours to forty-four, and later to forty, per week were summarised in previous issues of the Year Book. Since January 1948, practically all employees in Australia have had a standard working week of forty hours or less. However, the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or States. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and collective agreements for a full working week in respect of adult male workers in all industry groups except rural industry and shipping and stevedoring, at 31 December 1979, were: New South Wales, 39.71; Victoria, 39.90; Queensland, 39.82; South Australia, 39.90; Western Australia, 39.78; Tasmania, 39.87; Australia, 39.80. Corresponding figures for adult female workers at 31 December 1979, were: New South Wales, 39.53; Victoria, 39.81; Queensland, 39.70; South Australia, 39.77; Western Australia, 39.78; Tasmania, 39.63; Australia, 39.67.

Evening and night work

In November 1976, a survey based on the quarterly population survey (*see* the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the type of work being done in the evening and at night. Results of this survey are published in *Evening and Night Work*, November 1976 (6329.0).

Male average weekly earnings

The figures in this section are derived from particulars of employment and wages and salaries recorded on payroll tax returns, from other direct collections and from estimates of the unrecorded balance. The figures relate to civilian male wage and salary earners. In addition to salary and wage payments at award rates, the total earnings figures used in the calculation of average weekly earnings include the earnings of employees not covered by awards, overtime earnings, over-award and bonus payments, payments made in advance or retrospectively during the period, etc.

Particulars of wages and salaries paid are not available for males and females separately from the sources used for this series; average weekly earnings have therefore been calculated in terms of *male units*, i.e. total male employees plus a proportion of female employees, the proportion being derived from the estimated ratios of female to male average earnings. Different ratios of female to male average earnings, based on information from surveys of earnings and hours and from other sources, are used for individual States and Territories. Ratios used for the June 1979 quarter are as follows: New South Wales 68 per cent, Victoria 68, Queensland 65, South Australia 67, Western Australia 62, Tasmania 65, Northern Territory 65 and the Australian Capital Territory 64. As the number of male units used in calculating Australian average weekly earnings is the sum of the estimates for the States and Territories, a separate ratio for Australia is not used, but the weighted average of the State ratios is approximately 67 per cent. Changes in these ratios may be necessary from one quarter to the next to reflect, for example, the extension of equal pay provisions, or appreciable and sustained changes in the levels of male overtime earnings. However, small differences in these ratios have relatively little effect on the earnings figures: if the ratio is understated by one per cent, then the average weekly earnings of $200 would be overstated by about 70 cents.

Annual averages for each State, Territory and Australia are shown in the table below.

AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT(*a*)

($)

Period	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.(b)*	*A.C.T.(b)*	*Aust.*
1973–74 .	121.20	118.80	113.50	110.40	115.00	110.50	n.a.	n.a.	118.30
1974–75 .	152.10	147.80	142.50	138.60	145.60	140.20	168.50	184.30	148.30
1975–76 .	172.70	170.50	163.50	158.50	169.10	157.80	190.00	209.00	169.60
1976–77 .	193.60	191.10	184.50	179.50	190.80	181.20	216.70	237.70	190.70
1977–78 .	213.40	209.30	202.20	197.40	209.20	199.00	240.70	259.10	209.50
1978–79 .	230.20	226.60	217.80	210.30	223.30	211.60	259.30	279.30	225.70

(*a*) *See* explanation on page 170. (*b*) Estimates for the Northern Territory and the Australian Capital Territory have been calculated on a basis which excludes the effect of varying numbers of Australian Government pay-days in each quarter. Estimates for years prior to 1974-75 are not available.

For annual averages for the years 1961–62 to 1972–73 *see* the previous issue of the Year Book. For current statistics in this series, reference should be made to the quarterly publication *Average Weekly Earnings* (6302.0).

SURVEYS OF INCOME, EARNINGS AND HOURS

Since 1960 a number of statistical surveys have been undertaken by the ABS in order to obtain information on income, earnings and hours of work in Australia. Particulars of most of the surveys from 1960 to 1976 were shown in earlier issues of the Year Book. Information on the most recent surveys is given below.

Earnings and hours of employees (distribution and composition), May 1979

Preliminary results of the May 1979 survey contained in the tables below relate to the pay-period which included 21 May 1979. Similar surveys have been conducted in May each year from 1974. The results of these surveys are published in *Earnings and Hours of Employees, Distribution and Composition* (6306.0).

Scope of survey

All wage and salary earners were represented in the survey except (i) members of the defence forces, (ii) employees in agriculture, (iii) employees in private households employing staff, (iv) waterside workers employed on a casual basis, (v) employees on worker's compensation and (vi) persons employed by private employers (other than hospitals) not subject to payroll tax. At the time of sample selection, payroll tax was payable by employers in the States and Territories paying $60,000 (Queensland $125,000) or more a year in wages and salaries. In general, Australian Government bodies, religious and benevolent institutions, public hospitals and other similar organisations were specifically exempted under the Australian and State Payroll Tax Acts.

Coverage

The survey covered all Australian and State Government departments and authorities, and stratified random samples of local government authorities, hospitals and private employers subject to payroll tax.

Survey design

The majority of employers selected were requested to supply relevant details, on separate questionnaires, for only a sample of their employees. Individual employees were randomly selected by the employers in accordance with instructions supplied by the ABS. Employers with fewer than 10 employees were required to complete a questionnaire for every employee.

Definitions

Employees comprise male and female wage and salary earners within the survey scope who received pay for the specified pay-period.

Full-time employees are employees who received pay for the specified pay-period and whose standard (or rostered) weekly hours of work for that pay-period were at least 30 hours. Included are full-time employees who began or ceased work during the pay-period and full-time employees on paid annual leave, paid sick leave and paid holidays. Some employees (e.g. aircrews, teachers, university lecturers), although paid for a weekly attendance of less than 30 hours, were classified as full-time.

For employees in the private sector, *non-managerial employees* were defined to include minor supervisory employees, leading hands, clerical and office staff as well as ordinary wages employees. They exclude *managerial, executive, professional and higher supervisory staff* who for private employees were not further defined. For employees in the government sector, *managerial, executive, professional and higher supervisory staff* were generally defined as those employees who (i) were ineligible to receive payment for overtime, or (ii) although subject to payment for overtime, were in charge of a significant number of employees in a separate establishment (or establishments). The basis of allocation of employees to these two categories may have varied between individual private employers and between employers in the private and government sectors, with consequent effects on survey results. For some occupations in government employment, such as school teachers and doctors, there is no general payment for overtime. In these cases, managerial, etc. staff were determined according to the degree of supervision exercised or in relation to the pay structure of associated administrative employees.

Weekly hours paid for refers to the hours for which payment was made. It comprises *ordinary time hours* (*see* below) and *overtime hours,* which are those in excess of ordinary time hours. Weekly hours paid for were not reported for managerial, executive, professional and higher supervisory staff.

Ordinary time hours refers to award, standard or agreed hours of work. It includes stand-by or reporting time which are part of standard hours, and that part of paid annual leave, paid sick leave and long-service leave taken during the specified pay-period.

Weekly earnings refers to gross earnings before taxation and other deductions have been made. It includes *overtime earnings,* which refers to payment for overtime hours as defined above, and *ordinary time earnings*, as defined below. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly and paid annual or other leave taken during the specified pay-period. Pay in advance, retrospective pay and annual or periodical bonuses, etc. are excluded.

Ordinary time earnings refers to that part of weekly earnings which is attributable to ordinary time hours, as defined above. It comprises award or agreed base rates of pay for ordinary time hours paid for, including all allowances (other than overtime) specified in the award, etc.; payment by measured result, i.e. payment by piecework, task bonus, commission, etc.; and other earnings, i.e. attendance and good timekeeping bonuses, profit-sharing and any other forms of over-award, etc. pay.

Median earnings is the amount which divides the distribution into two equal groups, one having earnings above the median and the other having earnings below it. Medians were calculated from grouped data, linear interpolation being used within the class interval in which the median fell.

Mean (*or average*) *earnings* is the amount obtained by dividing the total earnings of a group (e.g. full-time employees) by the number of employees in that group.

Reliability of the estimates

Since the estimates from this survey are based on a sample they may differ from the figures that would have been produced if the information had been obtained for all employees. One measure of the likely difference is given by the *standard error,* which indicates the extent to which an estimate might have varied by chance because only a sample was included in the survey. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all employers had been included and about nineteen chances in twenty that the difference will be less than two standard errors.

The figures in Table A below provide an indication of the magnitude of the standard error of estimates of numbers of persons (distribution of weekly earnings) shown in the table on page 174. An example of the use of Table A is as follows: if the estimate for Australia obtained from the sample is 30,000, the standard error is 2,100 (7 per cent), i.e. there are about two chances in three that the true figure is within the range 27,900 to 32,100 and about nineteen chances in twenty that this figure is between 25,800 and 34,200.

Table B indicates the relative standard error of estimates of averages (composition of average weekly earnings). An example of the use of this table is as follows: the tables on the composition of average weekly earnings indicates that average overtime earnings of full-time male non-managerial employees aged 21 years and over (Australia) were $21.70. Table B below shows the approximate standard error for this estimate to be 3.7 per cent (i.e. about 80 cents). There are about two chances in three that the true figure is within the range $20.90 to $22.50, and about nineteen chances in twenty that the true figure is between $20.10 and $23.30.

The percentage standard errors in Table B relate only to estimates for Australia. Estimates for the States and Territories have higher standard errors, those for New South Wales and Victoria being about twice, and those for the other States and Territories about 3 to 5 times, as great as those for Australia.

The smaller the estimate the higher is the relative standard error. Estimates with a standard error greater than 15 per cent have not been published, except those relating to overtime earnings and hours; for these categories all estimates with a standard error less than 20 per cent have been published. Estimates with standard errors 20 per cent but not greater than 30 per cent have also been published if the standard errors are not greater than $1.00 or 0.5 hours respectively.

The standard errors for average weekly hours paid for are generally much lower than the corresponding figures shown in Table B for average weekly earnings.

Note. Estimates of average weekly earnings shown in the tables are rounded to the nearest 10 cents, and those of average weekly hours paid for are rounded to the first decimal place. Any discrepancies between sums of components and totals in tables are due to rounding.

TABLE A. APPROXIMATE STANDARD ERRORS OF ESTIMATES OF NUMBERS OF PERSONS

	Size of estimate (persons)						
Standard error	*5,000*	*10,000*	*20,000*	*30,000*	*40,000*	*60,000*	*100,000*
Number	750	1,100	1,600	2,100	2,400	3,000	4,000
Per cent	15	11	8	7	6	5	4

TABLE B. APPROXIMATE STANDARD ERRORS OF AVERAGE WEEKLY EARNINGS, FULL-TIME NON-MANAGERIAL EMPLOYEES, AUSTRALIA
(Per cent)

	Aged 21 years and over						*Aged under 21 years*	
	Males			*Females*			*Males*	*Females*
Industry	*Overtime*	*Ordinary time*	*Total*	*Overtime*	*Ordinary time*	*Total*	*Total*	*Total*
Manufacturing	3.9	0.5	0.7	6.4	0.7	0.7	1.6	1.7
Non-manufacturing	5.6	0.8	0.8	10.7	1.7	1.6	1.1	1.0
Total all industries	3.7	0.6	0.6	7.7	1.5	1.4	0.9	0.9

ALL EMPLOYEES(*a*): WEEKLY EARNINGS, MAY 1979

	Males			*Females*			*Persons*		
	Number ('000)	*Per cent of total*	*Cumulative per cent of total*	*Number ('000)*	*Per cent of total*	*Cumulative per cent of total*	*Number ('000)*	*Per cent of total*	*Cumulative per cent of total*
Weekly earnings ($)—									
Under 10	(*b*) 13.5	0.5	0.5	6.5	0.4	0.4	9.1	0.2	0.2
10 and under 20				22.2	1.5	1.9	33.0	0.8	1.0
20 „ „ 30	12.9	0.5	0.9	27.3	1.8	3.7	40.2	0.9	1.9
30 „ „ 40	15.8	0.6	1.5	27.1	1.8	5.5	42.9	1.0	2.9
40 „ „ 50	12.2	0.4	1.9	21.1	1.4	6.9	33.3	0.8	3.7
50 „ „ 60	10.1	0.4	2.3	22.8	1.5	8.4	32.9	0.8	4.5
60 „ „ 70	17.7	0.6	2.9	24.0	1.6	10.0	41.7	1.0	5.5
70 „ „ 80	24.4	0.9	3.8	40.7	2.7	12.7	65.1	1.5	7.0
80 „ „ 90	29.3	1.0	4.8	43.1	2.8	15.5	72.4	1.7	8.7
90 „ „ 100	26.6	1.0	5.8	49.3	3.2	18.7	75.8	1.8	10.5
100 „ „ 110	26.9	1.0	6.8	48.4	3.2	21.9	75.3	1.7	12.2
110 „ „ 120	28.4	1.0	7.8	50.0	3.3	25.2	78.4	1.8	14.0
120 „ „ 130	32.3	1.2	8.9	55.8	3.7	28.9	88.1	2.0	16.0
130 „ „ 140	36.8	1.3	10.2	67.5	4.4	33.3	104.3	2.4	18.4
140 „ „ 150	53.0	1.9	12.1	78.6	5.2	38.5	131.6	3.0	21.4
150 „ „ 160	100.0	3.6	15.7	116.5	7.7	46.2	216.4	5.0	26.4
160 „ „ 170	146.9	5.2	20.9	146.2	9.6	55.8	293.1	6.8	33.2
170 „ „ 180	155.2	5.5	26.4	122.2	8.0	63.8	277.4	6.4	39.6
180 „ „ 190	159.6	5.7	32.1	100.1	6.6	70.4	259.8	6.0	45.6
190 „ „ 200	165.3	5.9	38.0	80.4	5.3	75.7	245.7	5.7	51.3
200 „ „ 210	160.7	5.7	43.7	60.4	4.0	79.7	221.1	5.1	56.4
210 „ „ 220	152.9	5.4	49.1	59.0	3.9	83.6	211.8	4.9	61.3
220 „ „ 230	138.8	4.9	54.0	44.5	2.9	86.5	183.3	4.2	65.5
230 „ „ 240	126.9	4.5	58.5	37.2	2.5	89.0	164.2	3.8	69.3
240 „ „ 250	130.9	4.7	63.2	32.0	2.1	91.1	162.8	3.8	73.1
250 „ „ 260	108.0	3.8	67.0	25.0	1.6	92.7	133.0	3.1	76.2
260 „ „ 270	106.7	3.8	70.8	23.3	1.5	94.2	130.1	3.0	79.2
270 „ „ 280	84.7	3.0	73.8	21.6	1.4	95.6	106.3	2.5	81.7
280 „ „ 290	84.0	3.0	76.8	14.6	1.0	96.6	98.6	2.3	84.0
290 „ „ 300	74.6	2.7	79.5	10.1	0.7	97.3	84.7	2.0	86.0
300 „ „ 320	131.7	4.7	84.2	12.6	0.8	98.2	144.3	3.3	89.3
320 „ „ 340	98.9	3.5	87.7	8.4	0.6	98.8	107.4	2.5	91.8
340 „ „ 360	79.4	2.8	90.5	8.9	0.6	99.4	88.4	2.0	93.8
360 „ „ 380	54.9	2.0	92.5	5.3	0.3	99.7	57.8	1.3	95.2
380 „ „ 400	51.9	1.8	94.3	(*b*)5.4	0.4	100.0	54.3	1.3	96.4
400 „ „ 450	66.3	2.4	96.7				68.4	1.6	98.0
450 „ „ 500	37.6	1.4	98.1				39.2	0.9	98.9
500 „ „ 550	21.0	0.8	98.9				21.6	0.5	99.4
550 „ „ 600	10.6	0.4	99.3				11.2	0.2	99.6
600 and over	18.4	0.7	100.0				18.8	0.4	100.0
Total	**2,805.7**	**100.0**	..	**1,517.9**	**100.0**	..	**4,323.7**	**100.0**	..
				—dollars—					
Median earnings	221.60	..	..	164.00	..	..	197.80	..	..
Mean earnings	236.10	..	..	161.30	..	..	209.90	..	..

(*a*) Full-time and part-time employees, including managerial, etc. staff. *See* definitions on page 171 for particulars of employees excluded from the survey. (*b*) Although individual figures can be derived by subtraction, they have not been shown separately as they are subject to sampling variability too high for most practical uses. *See Reliability of the estimates* on page 172.

COMPOSITION OF AVERAGE WEEKLY EARNINGS AND HOURS FULL-TIME NON-MANAGERIAL EMPLOYEES: INDUSTRIES, MAY 1979

	Aged 21 years and over						*Aged under 21 years*	
	Males			*Females*			*Males*	*Females*
Industry	*Overtime*	*Ordinary time(a)*	*Total*	*Overtime*	*Ordinary time(a)*	*Total*	*Total*	*Total*
	AVERAGE WEEKLY EARNINGS ($)							
Manufacturing—								
Food, beverages and tobacco	23.60	192.00	215.60	9.30	166.60	175.90	146.10	128.00
Textiles; clothing and footwear	20.50	183.40	203.90	4.30	151.70	156.00	132.70	105.80
Paper, printing, etc.	28.30	221.40	249.60	6.00	172.90	178.90	139.30	112.80
Chemical, petroleum and coal products	38.80	221.80	260.60	*	174.00	180.80	145.60	136.20
Metal products, machinery and equipment—								
Basic metal products	36.90	212.50	249.40	*	186.90	197.80	154.30	*
Fabricated metal products; other machinery, etc. (*b*)	26.60	194.20	220.90	7.80	156.40	164.10	116.80	116.80
Transport equipment	26.10	194.00	220.10	12.00	167.10	179.10	134.30	124.00
Total metal products, etc.	*28.70*	*198.20*	*227.00*	*9.00*	*161.20*	*170.10*	*130.10*	*119.50*
Other(*c*)	30.20	191.10	221.40	*	159.70	166.90	128.30	109.80
Total manufacturing	*28.30*	*198.40*	*226.80*	*7.30*	*161.30*	*168.60*	*133.40*	*114.90*
Non-manufacturing—								
Mining	60.50	272.20	332.70	*	205.90	221.00	205.30	*
Electricity, gas and water	18.70	232.00	250.70	*	192.00	195.40	140.70	133.90
Construction	23.10	208.00	231.00	*	181.20	184.90	144.50	116.20
Wholesale trade	18.60	201.20	219.80	3.40	172.50	175.90	125.10	121.50
Retail trade	13.60	188.20	201.80	3.40	165.80	169.10	117.60	106.70
Transport and storage; communication	26.30	220.20	246.50	7.50	189.50	197.00	156.80	142.60
Finance, business services	7.50	218.40	225.90	1.50	182.00	183.50	133.20	124.60
Public administration and defence; community services (*d*)	8.20	240.80	249.00	2.20	211.70	213.90	151.20	142.60
Other (*e*)	17.70	199.00	216.00	4.90	168.30	173.20	137.30	133.70
Total non-manufacturing	*18.80*	*221.30*	*240.10*	*3.00*	*194.70*	*197.70*	*138.20*	*126.30*
Total all industries	**21.70**	**214.30**	**236.00**	**4.00**	**187.10**	**191.10**	**136.40**	**124.70**
	AVERAGE WEEKLY HOURS PAID FOR							
Manufacturing—								
Food, beverages and tobacco	3.1	38.5	41.6	1.4	38.3	39.7	40.8	39.4
Textiles; clothing and footwear	3.0	38.9	41.9	0.7	37.9	38.6	39.0	38.2
Paper, printing, etc.	3.1	39.4	42.5	0.9	38.4	39.3	41.8	39.1
Chemical, petroleum and coal products	4.2	38.4	42.6	*	37.9	38.9	40.2	39.0
Metal products, machinery and equipment—								
Basic metal products	4.5	39.1	43.6	*	38.3	39.7	40.3	*
Fabricated metal products; other machinery, etc. (*b*)	3.5	39.1	42.6	1.3	37.8	39.1	39.3	39.1
Transport equipment	3.1	39.0	42.1	1.7	38.7	40.4	40.5	37.8
Total metal products, etc.	*3.7*	*39.1*	*42.7*	*1.4*	*38.0*	*39.4*	*39.8*	*38.9*
Other(*c*)	4.1	39.3	43.4	*	38.5	39.6	40.3	38.9
Total manufacturing	*3.6*	*39.0*	*42.6*	*1.1*	*38.1*	*39.3*	*40.2*	*38.8*
Non-manufacturing—								
Mining	6.1	37.2	43.3	*	37.6	39.3	42.1	*
Electricity, gas and water	2.0	38.7	40.7	*	36.7	37.0	39.6	36.3
Construction	2.8	39.0	41.8	*	37.5	38.0	40.1	36.2
Wholesale trade	2.3	39.0	41.4	0.5	37.9	38.4	40.7	39.6
Retail trade	1.9	39.7	41.7	0.5	38.9	39.4	40.7	39.4
Transport and storage; communication	3.0	38.1	41.1	1.0	37.3	38.3	40.5	37.6
Finance, business services	0.9	38.3	39.2	0.2	37.5	37.7	38.9	38.4
Public administration and defence; community services (*d*)	0.9	38.1	39.0	0.3	37.4	37.7	39.1	38.5
Other(*e*)	2.3	38.9	41.3	0.7	36.5	37.2	41.8	39.8
Total non-manufacturing	*2.2*	*38.5*	*40.7*	*0.4*	*37.6*	*38.0*	*40.2*	*38.7*
Total all industries	**2.6**	**38.6**	**41.2**	**0.6**	**37.7**	**38.3**	**40.2**	**38.7**

(*a*) *See* definitions on page 172. (*b*) ASIC sub-divisions 31 and 33. (*c*) ASIC sub-divisions 25, 28 and 34 (wood, wood products and furniture; non-metallic mineral products; and miscellaneous manufacturing). (*d*) Excludes defence forces. (*e*) ASIC sub-divisions 03 and 04 (forestry and logging; fishing and hunting) and part of division L (entertainment, recreation, restaurants, hotels and personal services, excluding private households employing staff). * Although individual figures can be derived by subtraction, they have not been shown separately as they are subject to sampling variability too high for most practical uses.

AVERAGE WEEKLY EARNINGS, FULL-TIME NON-MANAGERIAL EMPLOYEES, MAY 1979
($)

	Males			*Females*		
State or Territory	*Overtime*	*Ordinary time*	*Total*	*Overtime*	*Ordinary time*	*Total*
			AGED 21 YEARS AND OVER			
New South Wales	22.90	216.60	239.40	4.10	187.20	191.30
Victoria	22.70	212.50	235.20	4.30	185.20	189.50
Queensland	19.20	213.40	232.60	3.50	187.60	191.10
South Australia	15.40	206.10	221.50	3.30	183.60	186.90
Western Australia	25.40	213.40	238.90	3.60	184.10	187.70
Tasmania	18.50	214.00	232.50	3.40	193.80	197.20
Northern Territory	34.70	242.30	277.00	*	222.10	228.90
Australian Capital Territory . .	15.30	246.60	261.90	*	206.50	211.00
Australia	**21.70**	**214.30**	**236.00**	**4.00**	**187.10**	**191.10**
			AGED UNDER 21 YEARS			
New South Wales	10.10	131.70	141.80	1.70	123.00	124.70
Victoria	8.50	125.00	133.50	2.10	123.70	125.80
Queensland	7.90	125.60	133.50	1.60	121.70	123.20
South Australia	5.40	125.50	131.00	2.00	123.30	125.30
Western Australia	8.00	124.40	132.40	1.60	118.60	120.20
Tasmania	*	124.90	132.20	*	116.80	118.80
Northern Territory	*	124.40	134.20	*	147.50	151.30
Australian Capital Teritory . . .	*	144.30	153.10	*	142.50	145.70
Australia	**8.60**	**127.80**	**136.40**	**1.80**	**122.80**	**124.70**

* *See* below.

AVERAGE WEEKLY HOURS PAID FOR, FULL-TIME NON-MANAGERIAL EMPLOYEES, MAY 1979

	Males			*Females*		
State or Territory	*Overtime hours*	*Ordinary time hours*	*Total hours*	*Overtime hours*	*Ordinary time hours*	*Total hours*
			AGED 21 YEARS AND OVER			
New South Wales	2.7	38.4	41.1	0.6	37.5	38.1
Victoria	2.8	38.8	41.6	0.6	37.8	38.4
Queensland	2.3	38.6	40.9	0.5	37.9	38.4
South Australia	2.0	39.0	41.0	0.5	37.8	38.3
Western Australia	3.0	38.9	41.9	0.5	38.0	38.5
Tasmania	2.2	39.0	41.2	0.5	38.0	38.5
Northern Territory	4.0	38.6	42.5	*	37.6	38.5
Australian Capital Territory . .	1.8	38.0	39.8	*	36.7	37.3
Australia	**2.6**	**38.6**	**41.2**	**0.6**	**37.7**	**38.3**
			AGED UNDER 21 YEARS			
New South Wales	1.7	38.6	40.2	0.3	38.0	38.4
Victoria	1.5	38.5	40.0	0.4	38.4	38.8
Queensland	1.3	38.7	40.0	0.3	38.6	39.0
South Australia	1.1	39.0	40.0	0.4	38.5	39.0
Western Australia	1.5	38.9	40.4	0.3	38.7	39.0
Tasmania	1.3	39.2	40.5	*	38.6	39.1
Northern Territory	*	38.9	41.1	*	38.9	39.4
Australian Capital Territory . .	*	38.9	40.4	*	37.7	38.3
Australia	**1.5**	**38.7**	**40.2**	**0.4**	**38.4**	**38.7**

* Although individual figures can be derived by subtraction, they have not been shown separately as they are subject to sampling variability too high for most practical uses.

Earnings and hours of employees, October 1978

Results of this survey, which was conducted in respect of the last pay-period in October 1978, are shown below. More detailed results were published in the bulletin *Earnings and Hours of Employees, October* 1978 (6304.0).

Scope of survey

The scope of this survey is the same as that for the May 1979 survey given earlier in this chapter, except that payroll tax exemption limits for the October survey were $60,000 ($100,000 in Queensland).

Coverage

The survey covered stratified random samples of government departments and authorities, non-government hospitals not subject to payroll tax and other private employers.

Although the sample was not designed to provide estimates of the number of employees represented, it has been calculated that the survey was representative of approximately 2,647,000 male and 1,432,000 female wage and salary earners, comprising 1,671,000 males and 905,000 females in private employment.

Definitions

Adult employees comprises employees 21 years of age and over and employees under 21 years of age who are paid at the adult rate for their occupation.

Junior employees are all other employees under 21 years of age.

Weekly earnings refers to gross earnings before taxation and other deductions have been made. It comprises overtime earnings (defined on page 172) and ordinary time earnings (defined on page 172). Where payments are made other than on a weekly basis, e.g. salary paid fortnightly or monthly; paid annual or other leave taken during the specified pay period; periodic payments under incentive, piece-work, profit-sharing, etc. schemes; commissions; annual or periodical bonuses, etc., one week's proportion of such payments are included. Retrospective payments are excluded.

Non-managerial employees were defined to include minor supervisory employees, leading hands and clerical and office staff, as well as ordinary wages employees. They exclude *managerial, executive, professional and higher supervisory staff*, who were generally defined as those employees who (i) were ineligible to receive payment for overtime, or (ii) although subject to payment for overtime, were in charge of a significant number of employees in a separate establishment (or establishments).

Definitions for other items are the same as those for the May 1979 survey shown earlier in this chapter.

Reliability of the estimates

Since the estimates from the survey are based on information which, in some instances, was obtained from samples of employers (*see Coverage* above), they may differ from the figures that would have been produced if the information had been obtained from all employers. One measure of the likely difference is given by the *standard error* (for definition *see* page 172).

Relative standard errors for the published estimates of average weekly ordinary time earnings and average weekly total earnings are generally less than 2 per cent. Relative standard errors for the figures of average weekly overtime earnings and hours are generally less than 10 per cent.

AVERAGE EARNINGS AND HOURS: FULL-TIME NON-MANAGERIAL EMPLOYEES, INDUSTRIES, OCTOBER 1978

	Manufacturing									
					Metal Products, machinery and equipment					
	Food, beverages and tobacco	*Textiles, clothing and footwear*	*Paper, printing, etc.*	*Chemical, petroleum and coal products*	*Basic metal products*	*Fabricated metal products; other machinery, etc.*	*Transport equipment*	*Total*	*Other*	*Total manufacturing*
AVERAGE WEEKLY EARNINGS ($)										
Adult males	212.50	195.60	234.80	237.20	235.10	202.60	206.60	211.30	204.40	213.10
Junior males	119.70	111.20	117.80	134.30	128.90	106.90	118.10	113.80	112.70	114.80
Adult females	162.70	152.40	162.90	170.50	183.20	157.00	171.00	162.20	155.90	159.70
Junior females	106.80	96.60	111.50	126.50	122.60	112.60	116.90	114.10	104.20	106.80
AVERAGE WEEKLY HOURS PAID FOR										
Adult males	42.3	42.0	42.2	41.8	41.8	41.4	41.3	41.5	41.3	41.7
Junior males	40.1	39.9	40.9	39.6	39.7	40.0	39.7	39.9	40.2	40.0
Adult females	39.2	38.8	39.1	38.6	39.7	39.2	40.2	39.4	38.9	39.1
Junior females	37.5	38.6	39.3	38.5	39.3	39.2	39.2	39.2	39.1	38.7
AVERAGE HOURLY EARNINGS ($)										
Adult males	5.03	4.66	5.56	5.68	5.63	4.89	5.00	5.10	4.95	5.11
Junior males	2.98	2.79	2.88	3.39	3.25	2.67	2.98	2.86	2.80	2.87
Adult females	4.15	3.92	4.16	4.41	4.62	4.01	4.25	4.11	4.01	4.08
Junior females	2.84	2.50	2.84	3.29	3.12	2.87	2.98	2.91	2.66	2.76

	Non-manufacturing										
	Mining	*Electricity, gas and water*	*Construction*	*Wholesale trade*	*Retail trade*	*Transport and storage; communication*	*Finance, business services*	*Public administration, etc.*	*Other*	*Total non-manufacturing*	*Total all industries*
AVERAGE WEEKLY EARNINGS ($)											
Adult males	298.50	237.10	218.90	211.70	187.60	232.70	217.30	236.70	207.00	226.30	222.10
Junior males	167.90	129.20	125.00	121.60	130.90	129.30	127.40	126.00	112.80	120.90	118.80
Adult females	206.60	188.70	172.90	176.80	158.70	187.60	172.00	201.00	163.70	186.10	179.80
Junior females	130.90	126.80	113.90	108.30	102.30	127.60	119.10	127.00	110.10	115.90	114.70
AVERAGE WEEKLY HOURS PAID FOR											
Adult males	40.0	40.2	41.3	40.7	41.0	40.8	39.0	38.7	40.8	40.2	40.6
Junior males	39.3	39.5	39.7	40.9	40.6	39.2	38.5	37.9	39.7	39.6	39.8
Adult females	38.6	37.3	37.8	38.4	39.5	38.8	37.6	37.4	38.4	37.9	38.2
Junior females	37.9	37.6	38.1	38.8	39.5	38.8	38.1	37.9	38.2	38.5	38.5
AVERAGE HOURLY EARNINGS ($)											
Adult males	7.45	5.90	5.30	5.20	4.58	5.70	5.58	6.11	5.07	5.64	5.46
Junior males	4.27	3.27	3.15	2.97	2.56	3.30	3.31	3.32	2.84	3.05	2.99
Adult females	5.35	5.06	4.57	4.60	4.02	4.84	4.57	5.37	4.27	4.90	4.70
Junior females	3.45	3.37	2.99	2.79	2.59	3.29	3.13	3.35	2.88	3.01	2.98

AVERAGE WEEKLY OVERTIME(*a*) AND ORDINARY EARNINGS AND HOURS: FULL-TIME NON-MANAGERIAL EMPLOYEES, STATES, OCTOBER 1978

	Adult males			*Junior males*			*Adult females*			*Junior females*		
	Over-time (a)	*Ordin-ary time*	*Total*	*Over-time (a)*	*Ordin-ary time*	*Total*	*Over-time (a)*	*Ordin-ary time*	*Total*	*Over-time (a)*	*Ordin-ary time*	*Total*
AVERAGE WEEKLY EARNINGS ($)												
New South Wales	22.30	203.70	225.90	5.70	114.30	120.00	4.80	173.90	178.70	2.50	115.00	117.50
Victoria	18.50	201.60	220.20	4.80	113.60	118.40	4.40	177.10	181.50	1.60	115.80	117.30
Queensland	18.30	200.20	218.80	5.70	113.80	119.50	2.40	174.30	176.80	0.90	106.80	107.70
South Australia	14.50	194.90	209.50	5.30	110.30	115.50	4.30	174.40	178.70	1.90	115.10	116.30
Western Australia	20.90	202.40	223.30	4.80	111.30	116.20	3.00	171.20	174.20	1.40	107.60	109.00
Tasmania	14.10	200.30	214.50	4.30	113.30	117.60	2.60	181.50	184.10	2.10	108.00	110.20
Northern Territory	26.50	228.70	253.70	10.40	131.50	141.80	2.70	196.70	199.40	1.90	122.10	124.00
Australian Capital Territory	13.20	239.70	252.90	7.00	121.60	128.50	3.50	197.50	201.00	1.70	123.00	124.70
Australia	**19.50**	**202.50**	**222.10**	**5.30**	**113.50**	**118.80**	**4.10**	**175.70**	**179.80**	**1.80**	**113.00**	**114.70**
AVERAGE WEEKLY HOURS PAID FOR												
New South Wales	2.8	38.1	40.8	1.2	38.4	39.6	0.7	37.4	38.1	0.5	37.9	38.5
Victoria	2.4	38.3	40.7	1.0	38.9	39.9	0.7	38.0	38.6	0.3	38.1	38.5
Queensland	2.2	38.1	40.3	1.2	38.6	39.8	0.4	37.5	37.9	0.2	38.5	38.7
South Australia	2.0	38.4	40.4	1.1	38.8	39.9	0.7	37.6	38.4	0.4	37.8	38.2
Western Australia	2.6	38.3	40.9	1.0	38.8	39.8	0.5	38.0	38.5	0.3	38.6	38.9
Tasmania	1.7	38.2	40.0	1.0	38.9	39.9	0.4	37.4	37.8	0.5	38.6	39.1
Northern Territory	3.0	38.0	40.6	1.9	38.4	40.3	0.4	36.7	37.2	0.4	37.0	37.4
Australian Capital Territory	1.6	37.9	39.5	*	38.8	40.1	0.5	37.0	37.5	0.4	37.7	38.1
Australia	**2.5**	**38.2**	**40.6**	**1.1**	**38.7**	**39.8**	**0.6**	**37.6**	**38.2**	**0.4**	**38.1**	**38.5**

(*a*) Average overtime earnings and hours paid for are averages for all employees represented in the survey.
* Although the omitted figure can be derived by subtraction, it has not been shown separately as it is subject to sampling variability too high for most practical uses.

Weekly earnings of employees (distribution) August 1978

In August 1978 a survey based on the population survey (*see* the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about weekly earnings of all persons aged 15 years and over who were employed as wage or salary earners in their main job.

Some results on weekly earnings of wage and salary earners are presented below. Additional details may be obtained from the publication *Weekly Earnings of Employees* (*Distribution*), *August 1978* (6310.0).

In many cases the answer to the question on earnings was based on the knowledge of one person, generally the housewife. Some understatement in the estimates may be expected because of imperfect recall of minor or irregular sources of earnings.

Definitions

Weekly earnings refers to gross weekly wages and salaries from all jobs (i.e. before taxation and other deductions have been made). For persons paid other than weekly, earnings were converted to a weekly equivalent.

Median weekly earnings is the amount which divides the distribution of individuals into two equal groups, one having earnings above the median and the other having earnings below it. Medians were calculated from grouped data with linear interpolation being used within the class interval in which the median fell.

Mean weekly earnings is the amount obtained by dividing the total earnings of a group by the number of units in that group.

Full-time workers are those who usually work 35 hours a week or more and others who, although usually part-time workers, worked 35 hours or more during the survey week.

Part-time workers are those who usually work less than 35 hours a week and who did so during the survey week. When recording hours of work, fractions of an hour were disregarded.

Reliability of estimates

Since the estimates from this survey are based on information obtained from the occupants of a sample of dwellings, they may differ from the figures that would have been produced if the information had been obtained from occupants of all dwellings. One measure of the likely difference is given by the *standard error* (for definition *see* page 172).

The following estimates have not been shown as they are subject to sampling variability too high (more than 20 per cent) for most practical uses: less than 4,000 for Australia, New South Wales and Victoria; less than 3,000 for Queensland; less than 2,500 for South Australia; less than 2,000 for Western Australia; and less than 1,500 for Tasmania, the Northern Territory and the Australian Capital Territory.

Means and medians are also subject to sampling variability. Standard errors vary according to the size and distribution of the population for which the mean and median have been obtained. Standard errors of means in this survey could generally be expected to be below 7 per cent, and of medians below 8 per cent. For populations of 100,000, the standard errors of the mean and median would both be about 1.5 per cent.

FULL-TIME EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND AGE, AUGUST 1978

	Age group (years)									
	15–19	*20–24*	*25–34*	*35–44*	*45–54*	*55–59*	*60–64*	*65 and over*	*Total 20 and over*	*Total*
					MALES					
Weekly earnings ($)—					-'000-					
Under 100 . . .	113.1	11.3	13.0	8.6	9.4	5.6	*	5.8	48.7	161.8
100 and under 110	31.3	8.4	8.2	7.5	*		*		26.2	57.4
110 „ „ 120	23.3	14.5	7.2		5.0	*	5.5		35.3	58.6
120 „ „ 130	23.0	20.6	11.0	9.7	10.0	5.3			61.6	84.6
130 „ „ 140	20.1	27.1	19.9	14.3	16.8	5.2	5.7		89.2	109.4
140 „ „ 150	10.6	30.9	32.7	22.5	25.6	9.6	6.7		130.2	140.8
150 „ „ 160	12.3	47.6	44.6	33.5	41.4	18.8	10.7	4.6	198.3	210.5
160 „ „ 170	6.5	41.4	51.8	38.3	43.1	21.1	12.9		209.4	215.9
170 „ „ 180	5.4	36.8	57.4	34.7	34.4	16.3	9.5		190.4	195.9
180 „ „ 190	*	32.2	60.4	42.1	40.7	16.1	9.5		201.3	204.3
190 „ „ 200	4.7	26.2	59.4	34.2	37.5	12.2	9.2		179.0	183.7
200 „ „ 210	5.1	30.3	69.3	48.2	43.2	16.2	7.1	4.6	216.3	218.4
210 „ „ 220		19.0	53.1	32.7	21.4	8.2	5.8		140.4	141.6
220 „ „ 230		15.9	42.7	27.3	19.3	7.8	7.8		117.0	117.6
230 „ „ 240		12.0	33.6	22.3	22.6	7.9			102.6	103.7
240 „ „ 250	*	7.2	36.5	21.7	19.0	4.7	*		91.0	91.5
250 „ „ 260	*	7.6	38.1	23.9	19.0	6.2	5.9		97.1	97.7
260 „ „ 280	*	6.9	46.9	30.8	25.4	8.4			122.8	123.3
280 „ „ 300	*	6.3	33.5	30.5	20.7	7.1	4.6		101.7	101.9
300 „ „ 320	*	5.1	35.3	26.8	15.0	6.0			88.3	88.5
320 „ „ 340	*		17.3	16.3	10.9	*			51.5	51.9
340 „ „ 360	*	4.5	13.0	11.5	10.1	*	5.7		38.9	38.9
360 „ „ 380	*		12.0	11.3	9.1	4.9			36.2	36.9
380 „ „ 400			8.6	10.7	7.4				30.6	30.7
400 „ „ 450	*	5.8	12.4	11.0	9.5	5.6			39.1	39.1
450 „ „ 500	*		4.5	6.1	5.5				20.0	20.1
500 and over . .	*		12.0	16.8	15.0	7.1	*	*	59.8	60.4
Total . . .	**262.3**	**417.5**	**834.3**	**593.1**	**540.2**	**207.0**	**114.5**	**16.0**	**2,722.7**	**2,985.0**
						-dollars-				
Median earnings .	106	172	207	211	201	193	184	166	200	193
Mean earnings . .	113	183	224	236	226	221	209	200	220	210

For footnotes *see* end of table.

FULL-TIME EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND AGE, AUGUST 1978—*continued*

	Age group (years)									
	15–19	*20–24*	*25–34*	*35–44*	*45–54*	*55–59*	*60–64*	*65 and over*	*Total 20 and over*	*Total*
FEMALES										
						-'000-				
Weekly earnings ($)—								(*a*)		
Under 100 . . .	110.8	9.7	7.1	8.8	5.1	5.7		4.5	34.5	145.3
100 and under 110	36.7	7.8	*	5.9	4.6				24.0	60.7
110 " " 120	23.5	13.4	6.9	6.4	7.1				37.0	60.6
120 " " 130	18.5	22.7	13.9	12.6	14.7	7.3			68.6	87.1
130 " " 140	13.3	31.0	21.3	23.1	17.9			4.7	99.6	112.9
140 " " 150	6.0	35.0	19.2	19.9	18.9	6.6			101.9	107.9
150 " " 160	5.4	37.8	23.9	23.7	19.7	5.6		5.2	112.7	118.1
160 " " 170	6.1	37.9	37.1	16.5	18.3	5.3			117.4	120.3
170 " " 180		22.7	26.1	13.8	13.0	*			80.6	82.1
180 " " 190		14.8	25.9	15.0	10.7	5.3		5.7	70.2	71.9
190 " " 200	5.0	13.2	19.7	10.4	9.2				55.8	56.9
200 " " 210		14.4	18.7	10.1	8.6	*			53.1	53.3
210 and over . .		35.5	69.1	35.8	30.1	6.2			180.1	183.8
Total . . .	**225.5**	**295.9**	**292.9**	**202.1**	**177.8**	**46.8**		**20.0**	**1,035.6**	**1,261.0**
						-dollars-				
Median earnings .	101	158	175	160	161	157		154	163	155
Mean earnings . .	107	166	185	173	173	171		164	174	162

(*a*) Aged 60 years and over. * Subject to sampling variability too high for most practical uses.

ALL EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND FULL-TIME OR PART-TIME STATUS, STATES AND TERRITORIES, AUGUST 1978(*a*)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
MALE FULL-TIME EMPLOYEES									
					–'000 –				
Weekly earnings ($)—									
Under 60	8.4	6.2	5.4	3.6	3.0	*	*	*	27.3
60 and under 80	18.1	15.2	11.4	6.2	6.0	2.8	*	*	60.0
80 " " 100	22.4	15.9	15.4	8.2	8.6	2.7	2.1	2.3	74.5
100 " " 110	19.2	15.2	9.1	5.4	5.2	2.4			57.4
110 " " 120	18.7	17.3	7.9	6.2	4.2	2.7			58.6
120 " " 130	28.5	22.1	14.4	9.0	6.5	3.4			84.6
130 " " 140	36.8	31.4	15.8	10.7	9.5	4.2	2.0	2.9	109.4
140 " " 150	44.4	36.2	25.3	16.4	12.9	3.1			140.8
150 " " 160	70.8	61.8	28.6	22.9	17.6	6.9	*		210.5
160 " " 170	76.6	59.6	33.0	21.3	15.8	6.7	3.0	3.5	215.9
170 " " 180	67.7	58.4	29.3	18.2	14.2	4.6			195.9
180 " " 190	71.7	59.5	26.0	18.7	16.9	7.7	2.7	2.6	204.3
190 " " 200	64.7	51.5	25.3	17.7	15.2	5.8		2.0	183.7
200 " " 210	78.3	55.8	35.5	18.3	18.5	6.4	2.3	3.2	218.4
210 " " 220	55.9	38.4	18.4	11.0	10.9	3.5	2.4	2.6	141.6
220 " " 230	44.1	32.1	14.7	11.0	9.6	3.0		*	117.6
230 " " 240	36.3	26.3	15.5	9.1	10.2	2.9	2.4	2.4	103.7
240 " " 250	34.6	23.3	13.5	7.2	7.2	2.7		*	91.5
250 " " 260	31.7	28.4	14.2	6.8	9.2	3.0	*	2.8	97.7
260 " " 280	48.3	31.0	13.6	9.8	10.4	4.0	2.3	3.9	123.3
280 " " 300	39.1	26.8	12.9	6.7	9.0	2.8	2.1	3.0	101.9
300 " " 320	35.8	24.2	9.5	5.7	7.1	2.7		2.8	88.5
320 " " 340	17.6	14.6	6.6	4.5	5.0	2.1	2.0	2.0	51.9
340 " " 360	14.1	12.2	3.9	2.6	3.0			2.1	38.9
360 " " 380	12.2	10.8	4.8	4.6	4.1	2.0		3.2	36.9
380 " " 400	11.1	7.3	*		3.5				30.7
400 " " 450	13.8	9.5	5.8	3.0	4.4			2.6	39.1
450 " " 500	7.0	5.6	*	4.4	6.8	*	*		20.1
500 " " 550	6.3	*	3.6			*	2.1	*	18.9
550 and over	17.5	8.5	7.8			*		*	41.5
Total	**1,051.6**	**809.3**	**433.7**	**269.4**	**254.6**	**89.7**	**27.5**	**49.3**	**2,985.0**
					— dollars —				
Median earnings	197	191	188	183	195	186	221	247	193
Mean earnings	214	209	206	197	212	197	241	263	210

For footnotes *see* end of table.

ALL EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND FULL-TIME OR PART-TIME STATUS, STATES AND TERRITORIES, AUGUST 1978(*a*)—*continued*

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
MALE PART-TIME EMPLOYEES(*a*)									
					—'000 —				
Weekly earnings ($)—									
Under 20	10.5	10.8	5.4	4.5	2.9	1.6	*	*	36.0
20 and under 40	10.0	6.7	6.0	5.1	5.3				23.4
40 " " 60	4.7	4.5							13.8
60 " " 80	*	5.0							12.3
80 " " 100	4.5	*							10.6
100 " " 200	15.1	11.3	6.2	3.6	3.5	1.6	*	*	36.0
200 and over	11.3	7.0							25.2
Total	**59.6**	**48.0**	**17.7**	**13.3**	**11.7**	**3.2**	*	**2.4**	**157.2**
					— dollars —				
Median earnings	85	68	54	49	60	100	*	38	69
Mean earnings	111	96	97	76	91	110	*	86	100
FEMALE FULL-TIME EMPLOYEES									
					—'000 —				
Weekly earnings ($)—									
Under 60	4.8	5.2	*	*	*	*	*	*	17.5
60 and under 80	14.4	8.3	12.7	4.9	4.3	1.5	2.4	4.2	47.2
80 " " 100	27.7	19.5	13.7	9.1	7.3	2.3			80.7
100 " " 110	24.9	12.7	9.4	5.6	5.8	1.8			60.7
110 " " 120	22.8	17.8	7.7	6.6	3.1	2.0			60.6
120 " " 130	28.6	28.7	11.0	8.6	6.6	2.4			87.1
130 " " 140	41.9	38.9	13.0	8.7	6.4	1.8			112.9
140 " " 150	38.5	30.6	15.8	9.3	8.4	2.4	2.3	2.1	107.9
150 " " 160	41.5	34.0	16.7	7.6	12.2	3.1		2.5	118.1
160 " " 170	46.9	33.5	15.2	9.9	9.0	2.8		2.4	120.3
170 " " 180	29.3	26.5	8.4	7.1	6.4	2.0		2.0	82.1
180 " " 190	27.9	21.6	7.5	6.6	4.6	2.6	*	3.5	71.9
190 " " 200	23.2	16.7	5.2	3.5	4.8				56.9
200 " " 210	18.0	15.7	6.4	4.4	4.4	1.5	*	2.3	53.3
210 " " 220	12.1	8.8	4.1	3.1	3.9	1.9	*	4.8	34.5
220 " " 230	9.3	9.5	*	*	2.5				27.4
230 " " 240	8.3	7.5	3.6	3.1	3.3				23.0
240 " " 250	5.6	4.5							15.1
250 " " 260	5.4	5.4	*	2.8					17.3
260 " " 280	7.8	6.3	4.2	3.1	*	*	*	2.7	18.5
280 " " 300	4.9				*	*	*		11.8
300 and over	14.3	9.1	5.4	2.9	2.5	*	*		36.2
Total	**458.2**	**360.9**	**166.7**	**110.9**	**99.4**	**29.7**	**8.6**	**26.7**	**1,261.0**
					— dollars —				
Median earnings	156	156	148	151	155	149	169	179	155
Mean earnings	164	162	156	160	161	149	177	186	162
FEMALE PART-TIME EMPLOYEES(*a*)									
					—'000 —				
Weekly earnings ($)—									
Under 20	15.5	18.4	15.2	7.7	8.4	1.9	*	*	68.3
20 and under 40	25.2	22.4	12.6	8.5	8.7	2.3	*	4.7	80.9
40 " " 60	23.5	17.0	12.3	8.0	7.3	3.4			73.3
60 " " 80	28.3	28.1	13.7	9.1	7.5	3.0			91.7
80 " " 100	27.6	21.8	6.9	10.9	8.0	3.4			80.1
100 " " 110	17.5	14.0	5.4	4.9	2.9	4.1	*	4.7	47.2
110 " " 120	12.1	5.9	*	3.1	4.7				27.1
120 " " 130	10.1	6.9	4.1	3.5					28.4
130 " " 140	7.9	*	3.8	*	*				19.9
140 " " 150	5.6	4.9	4.2	2.8	2.6				15.5
150 " " 160	8.5								15.1
160 and over	21.9	12.9	6.6	4.5	*				50.7
Total	**203.7**	**156.4**	**87.5**	**65.4**	**53.0**	**18.0**	**3.6**	**10.6**	**598.3**
					— dollars —				
Median earnings	87	75	65	79	66	70	96	90	77
Mean earnings	93	80	79	82	70	73	103	100	84

(*a*) Aged 60 and over. * Subject to sampling variability too high for most practical uses.

Income distribution, 1973-74

In November 1974, a survey based on the population survey (*see* the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the distribution of personal and family income within Australia. Details of the income of individuals, families, and income units can be obtained from the publication *Income Distribution, 1973-74 Part 1* (6502.0) individuals, *Part 2* (6503.0) families, and *Part 3* (6504.0) individuals, families, and income units.

A similar survey was conducted in November 1969 in respect of individual and family income received during 1968-69. Results of this survey were published in *Income Distribution 1968-69, Consolidated and Revised Edition* (6505.0). A further survey was conducted in respect of the year 1978-79.

Annual leave and long service leave

The majority of employees in Australia at present receive four weeks paid annual leave.

Four weeks annual leave was granted to State government employees in New South Wales in 1964, in South Australia in 1971 and in Tasmania in October 1972. Australian Government employees received the entitlement in 1973, as did State Government employees in Victoria, Queensland and Western Australia. (Northern Territory Government employees are entitled to four weeks annual leave.)

In December 1973, Queensland day workers employed under State awards were granted four weeks paid annual leave. Subsequently, workers covered by State awards in other States were granted similar benefits.

In May 1974, the Australian Conciliation and Arbitration Commission granted four weeks paid annual leave to persons employed under the Metal Industry Award, to accrue from 1 January 1974. As a result, this benefit was extended to other Federal awards. In addition to the leave entitlement, workers also received a leave bonus which varies in amount (but a 17½ per cent addition to leave pay is a frequent provision in awards).

Paid long service leave, i.e. leave granted to workers who remain with the one employer over an extended period of time, has been included in the provisions of Federal and State industrial legislation and industrial awards. Most employees in Australia are now entitled to at least thirteen weeks paid long service leave after fifteen years continuous employment with the one employer. For employees in certain industries and for some employees of the Australian and State Governments, long service leave entitlements are more generous. In all cases the transfer of ownership of a business does not constitute a break in continuity of service with the same employer.

In May 1979, a survey based on the monthly population survey (*see* the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the incidence and extent of annual and long-service leave-taking within Australia. Results of this survey were published in *Annual and Long-service Leave, May 1979* (6317.0).

INDUSTRIAL DISPUTES

The tables in this section refer to disputes involving stoppages of work of ten man-days or more; statistics of persons affected at establishments other than those at which the stoppages occurred are *not* included.

Detailed information, including explanatory notes, definitions, etc. on industrial disputes involving stoppages of work, is given in *Labour Statistics* (6101.0). A table showing statistics of industrial disputes for each year from 1913 is contained in the Appendix to *Labour Report* No. 58, 1973. Current statistics are published in the monthly publication *Industrial Disputes* (6321.0). Quarterly figures are published in *Industrial Disputes* (6322.0).

Particulars of all disputes in progress during the year are included in the annual figures, whether the dispute commenced in that year or was in progress at the beginning of the year. Consequently, details of 'the number of disputes' and 'workers involved' in disputes which commenced in any year and were still in progress during the following year are included in the figures for both years.

The following tables give, for Australia as a whole, particulars of industrial disputes which were in progress during the years 1973 to 1978, classified according to industries (*Australian Standard Industrial Classification* (ASIC), Preliminary Edition, 1969, Vol. 1 (1201.0).

INDUSTRIAL DISPUTES: INDUSTRIES, 1973 TO 1978

Year	*Mining*		*Manufacturing*			*Transport and storage; communication*			
	Coal	*Other*	*Metal products, machinery and equipment*	*Other*	*Construction*	*Stevedoring services*	*Other*	*Other industries (a)*	*All industries*
NUMBER OF DISPUTES									
1973 . .	208	132	736	415	276	275	209	287	2,538
1974 . .	201	178	700	422	350	363	227	368	2,809
1975 . .	175	188	681	388	309	279	183	229	2,432
1976(*b*) .	172	203	510	341	302	139	179	209	2,055
1977 . .	247	194	501	361	258	85	203	241	2,090
1978 . .	287	238	584	355	178	161	192	282	2,277
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)									
1973 . .	34.4	35.7	204.3	114.7	128.8	53.6	53.7	177.6	803.0
1974 . .	55.3	57.1	685.8	151.1	517.3	99.9	124.0	314.4	2,004.8
1975 . .	49.5	33.0	553.5	190.5	158.4	46.9	125.5	240.7	1,398.0
1976(*b*) .	65.7	73.4	484.4	426.2	264.8	35.4	294.7	545.5	2,189.9
1977(*c*) .	48.2	31.4	111.3	101.9	51.5	19.2	105.1	127.6	596.2
1978 . .	52.3	45.3	465.3	163.9	57.1	65.2	100.0	126.3	1,075.6
WORKING DAYS LOST ('000)									
1973 . .	87.5	155.3	800.8	661.4	439.3	49.5	93.2	347.6	2,634.7
1974 . .	163.0	146.5	2,850.8	756.7	1,188.7	111.1	516.2	559.4	6,292.5
1975 . .	343.3	90.0	1,279.2	464.1	497.0	46.2	146.7	643.5	3,509.9
1976(*b*) .	159.1	215.0	775.0	856.5	535.8	37.1	388.0	832.6	3,799.2
1977(*c*) .	102.8	170.9	204.4	455.7	215.2	39.9	172.6	293.3	1,654.8
1978 . .	142.3	125.1	732.1	490.2	134.1	122.9	166.9	217.2	2,130.8
ESTIMATED LOSS IN WAGES ($'000)									
1973 . .	1,629	3,320	13,731	10,328	8,006	777	1,665	5,752	45,207
1974 . .	3,657	3,956	54,069	16,016	27,169	1,969	10,301	11,164	128,302
1975 . .	11,457	2,808	33,073	11,990	14,861	1,181	3,737	16,655	95,761
1976(*b*) .	6,165	7,780	22,235	23,866	18,659	1,003	11,573	23,271	114,552
1977(*c*) .	4,591	7,300	6,906	14,714	8,218	1,307	6,386	10,252	59,674
1978 . .	7,228	5,513	24,988	17,396	5,345	4,331	5,806	7,796	78,404

(*a*) ASIC divisions A, D, F, I to L. (*b*) Includes Medibank stoppages in June and July which involved an estimated 1,570,000 workers and resulted in a loss of 2,060,000 working days and $59,060,000 in wages. (*c*) Excludes an estimated 150,000 Victorian workers stood down as a result of the electricity supply dispute in October in that State (but at establishments other than those at which the stoppage occurred). These workers lost an estimated 2.1 million working days.

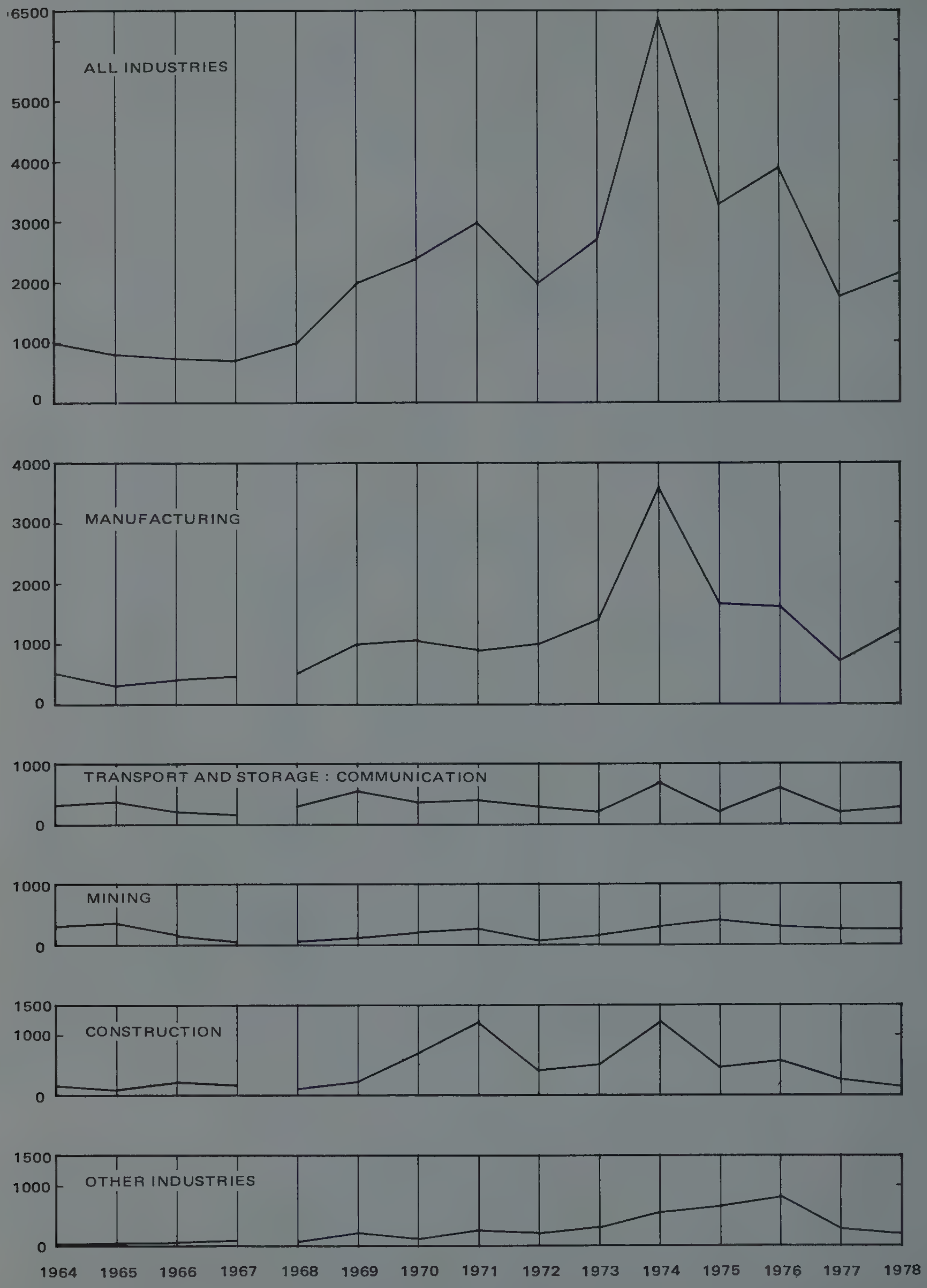
INDUSTRIAL DISPUTES: WORKING DAYS LOST, INDUSTRIES
('000)

ASIC division	*ASIC industry*	*1976*	*1977*	*1978*
A	Agriculture, forestry, fishing and hunting	1.7	0.3	–
B	Mining	374.2	273.7	267.4
	Coal mining	159.1	102.8	142.3
	Other mining	215.0	170.9	125.1
C	Manufacturing	1,631.6	660.1	1,222.3
	Food, beverages and tobacco	397.1	328.7	349.3
	Textiles; clothing and footwear	61.8	20.9	3.1
	Textiles	40.6	20.6	0.7
	Clothing and footwear	21.2	0.3	2.4
	Wood, wood products and furniture	59.3	0.6	0.5
	Paper and paper products, printing and publishing	153.5	19.4	67.2
	Chemical, petroleum and coal products	64.0	23.9	35.7
	Metal products, machinery and equipment	775.0	204.4	732.1
	Basic metal products	189.9	76.4	166.5
	Fabricated metal products	107.8	18.8	168.2
	Transport equipment	289.5	29.0	123.2
	Other machinery and equipment	187.8	80.2	274.1
	Other manufacturing	120.8	62.2	34.4
	Non-metallic mineral products	50.4	36.9	22.7
	Miscellaneous manufacturing	70.4	25.3	11.7
D	Electricity, gas and water	112.4	139.3	71.2
	Electricity and gas	88.2	129.2	52.6
	Water, sewerage and drainage	24.2	10.2	18.6
E	Construction	535.8	215.2	134.1
F	Wholesale and retail trade	272.3	64.5	33.4
	Wholesale trade	146.9	52.5	10.9
	Retail trade	125.3	12.0	22.5
G,H	Transport and storage; communication	425.1	212.5	289.9
	Railway transport; air transport	147.1	110.9	70.1
	Railway transport	119.4	84.1	45.8
	Air transport	27.7	26.9	24.3
	Water transport	75.5	52.7	131.3
	Stevedoring services	37.1	39.9	122.9
	Water transport (except stevedoring services)	38.4	12.9	8.3
	Road transport; other transport and storage; communication	202.4	48.8	88.5
	Road transport	93.4	12.0	56.9
	Other transport and storage; communication	109.0	36.8	31.6
I	Finance, insurance, real estate and business services	43.5	6.8	7.8
J,K	Public administration and defence; community services	223.3	50.2	72.8
	Health	6.0	5.7	8.2
	Education, libraries, museums and art galleries	119.4	27.7	43.1
	Other	97.9	16.9	21.6
L	Entertainment, recreation, restaurants, hotels and personal services	179.5	32.2	31.9
	Total	(*a*) **3,799.2**	(*b*) **1,654.8**	**2,130.8**

(*a*) Includes Medibank stoppages which resulted in the loss of an estimated 2,060,000 working days. (*b*) Excludes an estimated 2.1 million working days lost as a result of the electricity supply dispute in October in Victoria (but at establishments other than those at which the stoppage occurred).

INDUSTRIAL DISPUTES : AUSTRALIA

WORKING DAYS LOST – INDUSTRIES



NOTE: A break exists in the series between 1967 and 1968, due to adoption of the Australian Standard Industrial Classification (ASIC).

PLATE 32

The following table shows, for the years 1976 to 1978, working days lost in industrial disputes, classified according to duration, causes and methods of settlement. Causes (i.e. the direct causes of stoppages of work) are grouped as follows:

> *Wages*—claims involving general principles relating to wages, including combined claims relating to wages, hours or conditions of work. *Hours of work*—claims involving general principles relating to hours of work. *Leave, pensions, compensation provisions, etc.*—claims involving general principles relating to these provisions. *Managerial policy*—disputes concerning managerial policy of employers including computation of wages, hours, leave, etc. in individual cases; docking pay, etc.; dismissals, etc.; principles of promotion, etc.; employment of particular persons and personal disagreements; production limitations, etc. *Physical working conditions*—disputes concerning physical working conditions including safety issues; protective clothing and equipment, etc.; amenities; shortage of, or condition of, equipment or material; new production methods, etc.; arduous physical tasks, etc. *Trade unionism*—disputes concerning employment of non-unionists; inter-union and intra-union disputes; sympathy stoppages; recognition of union activities, etc. *Other*—disputes concerning protests directed against persons or situations other than those dealing with employer-employee relationship; non-award public holidays; accidents and funerals; no reason given for stoppage; etc.

INDUSTRIAL DISPUTES: DURATION, CAUSES AND METHODS OF SETTLEMENT, WORKING DAYS LOST, 1976 TO 1978

('000)

	1976	*1977*	*1978*
DURATION			
Up to 1 day	741.5	210.1	352.3
Over 1 to 2 days	1,133.8	111.2	494.4
Over 2 to 3 days	691.2	158.2	178.6
Over 3 to less than 5 days	153.7	226.0	269.6
5 to less than 10 days	375.1	246.5	309.1
10 to less than 20 days	364.0	263.2	317.2
20 to less than 40 days	187.4	278.2	132.8
40 days and over	152.6	161.5	76.7
Total	**(*a*)3,799.2**	**(*b*)1,654.8**	**2,130.8**
CAUSES(*c*)			
Wages	698.7	867.6	1,103.8
Hours of work	58.0	51.1	32.7
Leave, pensions, compensation provisions, etc.	111.4	44.1	24.9
Managerial policy	574.2	394.5	545.9
Physical working conditions	130.0	155.4	105.1
Trade unionism	119.0	75.0	94.1
Other	2,107.8	67.0	224.4
Total	**(*a*)3,799.2**	**(*b*)1,654.8**	**2,130.8**
METHODS OF SETTLEMENT (*d*)			
Negotiation	554.8	272.8	306.7
Mediation	9.9	5.5	26.6
State legislation—			
(*a*) Under State conciliation, etc., legislation	360.6	278.0	130.0
(*b*) Intervention, etc. of State Government officials	1.5	0.7	3.3
Federal and joint Federal State legislation (*e*)	384.0	255.6	272.8
Filling the places of workers on strike or locked out	–	0.7	0.1
Closing down the establishment permanently	1.6	–	0.1
Resumption without negotiation	2,486.6	838.4	1,391.4
Other methods	0.2	3.3	–
Total	**(*a*)3,799.2**	**(*b*)1,654.8**	**2,130.8**

(*a*) Includes Medibank stoppages which resulted in the loss of an estimated 2,060,000 working days. (*b*) Excludes an estimated 2.1 million working days lost as a result of the electricity supply dispute in October in Victoria (but at establishments other than those at which the stoppage occurred). (*c*) For nature of classification, *see* text above. (*d*) Method directly responsible for ending the stoppage of work. (*e*) Includes Industrial Tribunals under (i) Conciliation and Arbitration Act, (ii) Coal Industry Acts, (iii) Stevedoring Act, (iv) Other Acts, and intervention, etc. of Federal government officials.

The following table shows the number of working days lost per 1,000 employees in the years 1973 to 1978. Figures are given both for all causes, and excluding those causes where the employer/employee relationship is not involved. For classification of causes *see* grouping on page 187.

INDUSTRIAL DISPUTES: WORKING DAYS LOST PER 1,000 EMPLOYEES

	1973	*1974*	*1975*	*1976*	*1977*	*1978*
All causes	570	1,320	742	770	335	430
All causes excluding those not involving employer/employee relationship (*a*) . . .	541	1,290	700	343	321	385

(*a*) *See* text above.

INDUSTRIAL ACCIDENTS

Statistics of industrial accidents and diseases and workers' compensation are currently available only on a State basis and are included in the various State Year Books and publications. Some work to develop a collection including national totals and estimates on a uniform basis throughout the States began in 1978 and is continuing. A collection has been introduced in the Northern Territory and some progress in standardisation of State collections has been made. Investigations are proceeding with respect to improving coverage, especially under jurisdictions other than the principal Workers' Compensation Act in each State.

LABOUR ORGANISATIONS

Labour organisations in Australia

Trade unions

For the purpose of these statistics a *trade union* is defined as an organisation, consisting predominantly of employees, whose principal activities include the negotiation of rates of pay and conditions of employment for its members. Returns showing membership by States and Territories at 31 December each year are obtained for all trade unions and employee organisations. Results of this collection are published in the annual bulletin *Trade Union Statistics: Australia* (6323.0). The following table shows the position at the end of each of the years 1973 to 1978.

TRADE UNIONS: NUMBER, MEMBERSHIP AND PROPORTION OF TOTAL EMPLOYEES

End of December–	*Number of separate unions(a)*	*Number of members ('000)*		*Proportion of total employees (per cent)*
		Males	*Females*	
1973	294	1,904.9	755.0	55
1974	286	1,975.3	798.3	56
1975	280	1,966.0	847.9	58
1976	280	1,952.6	849.6	57
1977	281	1,944.4	850.0	57
1978	279	1,929.7	845.1	57

(*a*) Without inter-State duplication.

In the table above the approximate percentages of wage and salary earners in employment who were members of trade unions are shown. The estimates of employees have been derived by adding figures for employees in agriculture and in private households employing staff to the estimates of employees in all other industries as at the end of each year. The percentages shown should be regarded as giving only a broad indication of the extent of union membership among wage and salary earners because they are based on estimates of *employed* wage and salary earners which are subject to revision. The degree of unemployment of reported union members would affect the percentages for a particular year and comparison over time.

TRADE UNIONS: CLASSIFICATION ACCORDING TO NUMBER OF MEMBERS, 1978

	Separate unions		*Members*	
Number of members	*Number*	*Proportion of total*	*Number*	*Proportion of total*
		(per cent)	*('000)*	*(per cent)*
Under 100	25	8.9	1.2	–
100 and under 250	35	12.5	5.6	0.2
250 „ „ 500	25	8.9	9.3	0.3
500 „ „ 1,000	44	15.7	29.6	1.1
1,000 „ „ 2,000	40	14.3	55.8	2.0
2,000 „ „ 5,000	39	14.3	123.2	4.4
5,000 „ „ 10,000	21	7.5	161.4	5.8
10,000 „ „ 20,000	13	4.6	193.3	7.0
20,000 „ „ 30,000	9	3.2	228.0	8.2
30,000 „ „ 40,000	5	1.8	175.4	6.3
40,000 „ „ 50,000	6	2.1	266.4	9.6
50,000 „ „ 80,000	8	2.9	471.7	17.0
80,000 and over	9	3.2	1,053.9	37.9
Total	**279**	**100.0.**	**2,774.8**	**100.0**

In November 1976 a survey based on the population survey (for details *see* the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the industry and occupation, and some demographic characteristics, of wage and salary earners who were members of trade unions. Results of the survey are published in *Trade Union Members, November* 1976 (6325.0).

Employer and employee organisations registered under Industrial Arbitration Acts, etc.

The Federal *Conciliation and Arbitration Act* 1904 and a number of State industrial arbitration Acts provide for the registration of employer and employee organisations as outlined below. In general, registration is necessary before an organisation may appear before the relevant industrial arbitration tribunal.

In Victoria and Tasmania, where wages and conditions of work in the State sphere are determined by Wages Boards and Industrial Boards respectively, there is no provision in industrial arbitration legislation for registration of trade unions or employer organisations.

Federal. At the end of 1978 the number of employers' organisations registered under the provisions of the *Conciliation and Arbitration Act* 1904 was 80. The number of unions registered at the end of 1978 was 144, with membership of 2,289,600, representing 82 per cent of the total membership of all trade unions in Australia. Lists of organisations of employees and employers registered under this Act are contained in the *Industrial Information Bulletin,* Vol. 30 No. 1, January 1975 published by the former Department of Labor and Immigration. (Branches of employer organisations and unions may also register under various State Acts, as outlined below.)

New South Wales. At 30 June 1979 there were 111 employee unions and 296 employer unions registered under provisions of the *Industrial Arbitration Act* 1940, and 132 employee unions, 11 employer unions, and 2 other unions registered under the *Trade Union Act* 1881. (Unions may register under either or both Acts.) Lists of unions registered under these Acts are included in the *New South Wales Industrial Gazette.* (*See* Vol. 214 for details at 30 June 1979.)

Queensland. At 31 December 1978 there were 73 employee unions registered under the *Industrial Conciliation and Arbitration Act* 1961–1976 with a reported membership of 349,510. At the same date, 39 employer unions with a reported membership of 36,070 employers were registered. Lists of registered employee and employer unions are published in the annual report of the President of the Industrial Court.

South Australia. At the end of December 1978 there were 8 employer associations and 73 employee associations registered under the provisions of the *Industrial Conciliation and Arbitration Act* 1972 as amended. Membership of these employee associations totalled approximately 200,180.

Western Australia. At 30 June 1979 there were 75 unions of workers, with an aggregate membership of 183,260, registered under the provisions of the *Industrial Arbitration Act,* 1912–1976. At the same date there were 14 registered unions of employers with a reported aggregate membership of 2,092 employers. Lists of registered unions of workers and of employers, together with membership figures, are published in the *Western Australian Industrial Gazette.* (*See* Vol. 59, Appendix XVII.)

Central Labour Organisations

There are four main central labour organisations in Australia: the *Australian Council of Trade Unions* (ACTU), which came into being in 1927, had approximately 138 unions and Trades and Labour Councils affiliated with it in 1979; the *Council of Australian Government Employee Organisations,* formed in May 1969 by a conference of delegates from 19 affiliated associations of employees which had, at the end of March 1979, 26 affiliated associations and an aggregate membership of 235,446 in the Australian Public Service and instrumenalities; the *Council of Professional Associations* which was formed in 1956 and, at the end of 1978, had 9 organisations with aggregate membership of approximately 30,000 affiliated with it; and the *Australian Council of Salaried and Professional Associations* (ACSPA), formed in 1956 as a council of industrial associations for the purpose of co-ordinating industrial activities on common problems, which had 31 associations with an aggregate membership of approximately 350,000 affiliated with it at the end of 1979. In late 1979, the ACTU agreed to accept the affiliation of the ACSPA, with effect from 1 January 1980.

International Labour Organisation

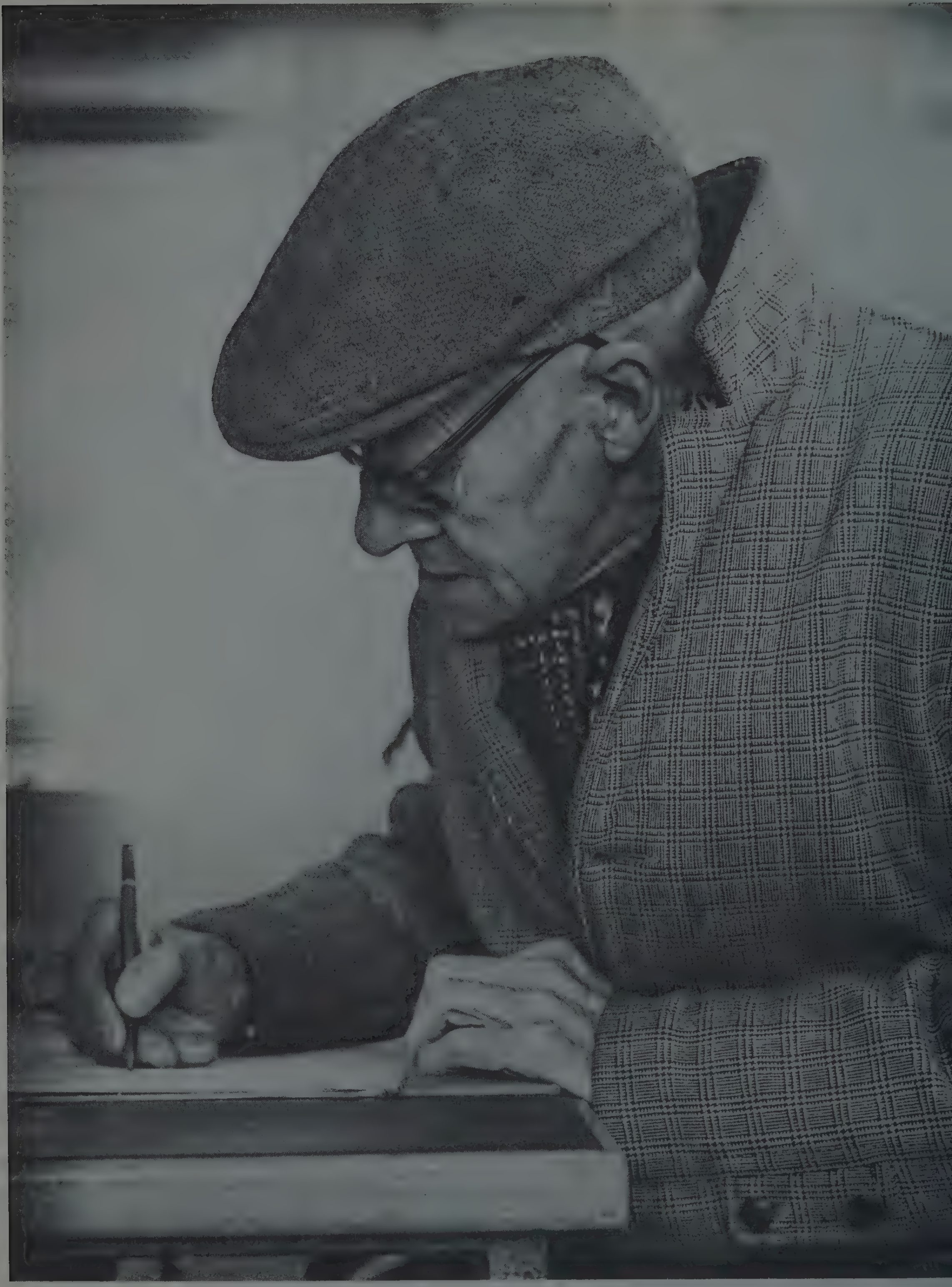
The International Labour Organisation (ILO) was established on 11 April 1919, as an autonomous institution associated with the League of Nations. Its original constitution was adopted as Part XIII of the Treaty of Versailles. With certain amendments this constitution remains the charter of ILO to this day, bringing governments, employers and trade unions together to discuss international labour and social problems. A new definition of the aims and purposes of the ILO known as the Declaration of Philadelphia, which was added to the constitution at the 1944 Session of the International Labour Conference, asserted the responsibility of ILO in combating poverty and insecurity. In 1946 the Organisation became the first of the specialised agencies of the United Nations. Under the terms of agreement, the United Nations recognises the ILO as a specialised agency having responsibility in the field defined by its constitution, which embraces labour conditions, industrial relations, employment organisation, social security and other aspects of social policy.

The Organisation has three basic parts: the International Labour Conference, its highest authority, which usually meets annually; the Governing Body, its executive council, which usually meets three times each year; and the International Labour Office, which provides the Secretariat of the Organisation. The Conference is composed of delegations from the member States of the Organisation. In June 1977 there were 135 member States, each of which is entitled to be represented by four delegates—two representing the government, one representing the employers and one representing the workers, together with their advisers. Each delegate speaks and votes independently, so that all points of view in each country are fully expressed. The Governing Body consists of the representatives of twenty-eight governments and fourteen employers' and fourteen workers' representatives. Particulars of the proceedings of International Labour Conferences up to the 58th Session and details of ILO conventions ratified by Australia are given in *Labour Report* No. 58, 1973, pages 255–59.

One of the functions of the ILO is to sponsor the International Conferences of Labour Statisticians at which the ABS is usually represented. It is proposed that the next Conference will be held in 1981. These conferences are responsible for recommending and reviewing standards which the ABS adopts whenever practicable.

CHAPTER 9

SOCIAL SECURITY AND WELFARE



CHAPTER 9

SOCIAL SECURITY AND WELFARE

This chapter describes social welfare services provided by the Commonwealth Government (through the Departments of Social Security, Aboriginal Affairs and Veterans' Affairs), the State Governments and voluntary welfare organisations. Details of services administered by the Commonwealth Department of Health are given in Chapter 10, Health. For information on the many important welfare services provided by the State and local governments, especially in the fields of child and Aboriginal welfare, reference should be made to the State Year Books and annual statistical publications, and the annual reports of the State departments concerned. Details of pension and superannuation schemes for government and semi-government employees, mine workers, parliamentarians, and employees of private business are included in Chapter 21, Private Finance.

Commonwealth Government expenditure on social security services

This section deals with various government payments for the relief of the aged, indigent, infirm, widowed, orphaned and unemployed; assistance to families; etc. For summary statements of cash payments to persons made by public authorities under various functional heads, *see Commonwealth Government Finance* (5502.0) and other annual publications listed at the end of this chapter.

Under the provisions of section 51 of the Constitution, the Commonwealth Government is empowered to legislate on:

'(xxiii) Invalid and old age pensions:

(xxiiiA) The provision of maternity allowances, widows' pensions, child endowment, unemployment, pharmaceutical, sickness and hospital benefits, medical and dental services (but not so as to authorize any form of civil conscription), benefits to students and family allowances;'.

On 1 July 1947, with the passage of the *Social Services Consolidation Act* 1947, all Acts providing social service benefits were amalgamated. The Act is at present styled the *Social Services Act* 1947.

The social security benefits provided by the Commonwealth Government under the *Social Services Act* 1947, and the date on which each came into operation, are shown on page 421 of Year Book No. 61. In addition, a supporting parent's benefit, replacing the supporting mother's benefit, was introduced in November 1977.

AUTHORITIES OF THE COMMONWEALTH GOVERNMENT, SOCIAL SECURITY AND WELFARE CASH BENEFITS TO PERSONS

($'000)

	1976-77	*1977-78*	*1978-79*
Assistance to aged persons—			
Aged pensions	2,483,563	2,933,897	3,229,013
Delivered meals	1,369	1,629	2,280
Personal care	11,072	12,564	13,375
Telephone concessions	12,220	13,244	14,392
Total	*2,508,224*	*2,961,334*	*3,259,060*
Assistance to incapacitated and handicapped persons—			
Invalid pensions	511,019	598,375	690,357
Sheltered employment allowances	13,835	16,190	18,733
Handicapped children's benefits	15,685	18,036	18,235
Rehabilitation services	12,737	14,995	16,885
Total	*553,276*	*647,596*	*744,210*
Assistance to unemployed and sick persons—			
Unemployment benefits	618,074	794,144	910,012
Sickness benefits	105,408	117,929	113,263
Special benefits	21,913	30,318	37,660
Structural adjustment assistance	131	2	—
Other	34	62	—
Total	*745,560*	*942,455*	*1,060,935*

AUTHORITIES OF THE COMMONWEALTH GOVERNMENT SOCIAL SECURITY AND WELFARE CASH BENEFITS TO PERSONS—*continued*
($'000)

	1976-77	*1977-78*	*1978-79*
Assistance to ex-servicemen(*a*)—			
Disability and dependants pensions and allowances	654,603	791,134	851,525
Other benefits	3,767	3,682	2,627
Total	*658,370*	*794,816*	*854,152*
Assistance to widowed and deserted spouses—			
Widows' pensions	370,201	439,497	499,349
Assistance to families and children—			
Family allowances	1,023,303	1,038,115	974,866
Maternity allowances	6,923	7,179	3,231
Supporting parent's benefit(*b*)	158,483	192,825	226,680
Orphans pensions	2,402	1,943	1,948
Total	*1,191,111*	*1,240,062*	*1,206,725*
Other social security and welfare programs—			
Funeral benefits	1,528	1,551	1,461
Telephone rental concessions n.e.c.	1,940	2,131	2,388
Compassionate allowances	80	78	80
Assistance to homeless persons	756	955	974
Other	900	960	1,361
Total	*5,204*	*5,675*	*6,265*
Total social security and welfare	**6,031,946**	**7,031,435**	**7,580,694**

(*a*) For details *see* section on Veterans' Affairs in this Chapter. (*b*) Changed from supporting mother's to parent's benefit on 10 November, 1977.

GOVERNMENT OUTLAY ON SOCIAL SECURITY AND WELFARE
($ million)

	1975-76	*1976-77*	*1977-78*
Final consumption expenditure	322	356	420
Expenditure on new fixed assets	28	28	23
Final expenditure	*350*	*384*	*443*
Cash benefits to persons—			
Commonwealth	4,507	6,032	7,031
State and local	88	115	148
Other transfers to private sector for social security and welfare (*a*)	115	60	67
Other outlay	6	2	2
Total outlay	**5,066**	**6,593**	**7,691**

(*a*) Mainly grants for private capital purposes.

Age and invalid pensions and associated payments

Age pensions are payable to residentially qualified men and women who have reached the ages of 65 and 60 respectively. They are subject to an income test unless the person is permanently blind or has reached the age of 70. For persons over 70 years of age, increases above the base rate are subject to an income test. These payments are subject to tax.

To be residentially qualified for age pension a person must generally be living in Australia on the date of application for the pension and have lived in Australia for ten years continuously at some time. If a person has completed five years but not ten years continuous residence at some time, and has lived in Australia for periods which exceed a total of ten years, the period of continuous residence otherwise required is reduced by the total of his periods of residence in Australia in excess of ten years. Any periods of absence during which a person's home remains in Australia and absences in certain other circumstances may be counted as residence, and any absence in an external territory other than Norfolk Island counts as residence in Australia. Residence in New Zealand or the United Kingdom may be treated as residence in Australia.

Invalid pensions are payable to persons sixteen years of age and over who are permanently incapacitated for work to the extent of at least 85 per cent, or permanently blind. In the former case, they are subject to an income test.

There is no residence qualification for invalid pension if the incapacity or permanent blindness occurred within Australia (including an external Territory other than Norfolk Island) or during temporary absence from Australia. As a result, some people not residentially qualified for age pension but who have reached age pension age receive an invalid pension. Invalid pension is subject to tax in these cases but not in others.

A wife's pension is payable to the wife of a pensioner not entitled, in her own right, to an age, invalid or repatriation service pension. There is no residence qualification, but an income test applies. A wife's pension is taxable only if her husband has reached the age of 65.

Rates of pension. The maximum standard rate was increased to $3,010.80 per annum ($57.90 a week) from November 1979. This is payable to a single, widowed or divorced pensioner, or a married pensioner whose spouse is not receiving a pension or a tuberculosis allowance. The standard rate may also be paid to each of a married pensioner couple who are living apart for an indefinite period due to illness or infirmity of either or both. The maximum rate for married pensioner couple (known as the married rate) was increased to $5,018.00 per annum ($96.50 a week) from November 1979 (i.e. $2,509.00 per annum or $48.25 a week each). For a married person whose spouse receives a tuberculosis allowance or a service pension, the maximum rate is also $2,509.00 per annum ($48.25 a week).

For qualified persons over the age of 70, the base standard rate is $2,675.40 per annum ($51.45 a week) and the base married rate is $4,461.60 per annum ($85.80 a week). Subject to an income test, these persons can qualify for further amounts not exceeding the rates applicable to those under 70 years of age.

Additional pension for each dependent child under 16 years is payable, subject to the income test, at the rate of up to $390 per annum ($7.50 a week). Widowed or other unmarried age or invalid pensioners with a dependent child may receive a guardian's allowance of up to $4 a week, or up to $6 a week if the child is under 6 years of age or is an invalid child requiring full-time care. A guardian's allowance is also subject to the income test. Eligibility for the additional pension for children is extended to include a child over sixteen and under the age of 25 years provided he is wholly or substantially dependent on the pensioner and is receiving full-time education at a school, college or university. Supplementary assistance of up to $5 a week (standard rate pensioners) and $2.50 a week (married rate pensioners) subject to a special income test, is available to pensioners if they pay rent or pay for board and lodging or for lodging.

On the death of one member of a married pensioner couple, the surviving pensioner spouse becomes entitled to receive, for up to six fortnightly instalments, the equivalent of the two pensions that would have been paid if the spouse had not died. For the purpose of this provision the term 'pensioner' includes a person in receipt of age, invalid, wife's or repatriation service pension, or a sheltered employment allowance.

A table showing the maximum rates of pension operating since 1 July 1909 at dates prior to 14 October 1965 is included on page 608 of Year Book No. 51. Details of the respective rates and allowances payable in recent years are shown in the Annual Reports of the Department of Social Security.

The income test is the same for age and invalid pension purposes. As already noted, it does not apply to the permanently blind or, in the case of age pensions, to people who have reached 70 years of age unless they wish to claim payment above the base rate. In other cases, the income test operates to reduce pension payable if a claimant's *income as assessed*—in effect, the claimant's annual income—exceeds prescribed limits. In the case of a person entitled to the standard rate of pension, the limit is $1,040; in other cases, it is $897. If income as assessed exceeds these figures, half the excess is subtracted from the appropriate maximum rate of pension. If income as assessed does not exceed these figures, the appropriate maximum rate is payable.

The effect of the income test is to preclude from entitlement to any pension a person subject to the income test and whose income exceeds $135.80 a week. The corresponding figure for a married couple without children is $113.75 a week (each partner).

Supplementary assistance is subject to a special income test, the effect of which is to reduce the maximum annual rate by the excess of a person's income as assesed over $52 (standard rate pensioner) or half the excess of income as assessed over $52 (married rate pensioners).

Certain types of income are exempted. The main exemptions are: gifts or allowances from children, parents, brothers, or sisters; benefits from friendly societies; family allowances; Commonwealth Government health benefits and amounts received from registered hospital or medical benefit organisations. The amount of a pensioner's income included in income as assessed may also be reduced by up to $312 per annum ($6 per week) for each dependent child under sixteen years or full-time student in the pensioner's care.

For the purposes of the income test, the income as assessed of a married person is normally taken to be half of the combined income as assessed of the married couple. Exceptions may be made where the spouses are legally separated or where other special circumstances exist.

AGE PENSIONERS, BY AGE: 30 JUNE 1979

	60–64 years	*65–69 years*	*70–74 years*	*75 years and over*	*Total*
			–'000–		
Males	–	138.9	144.2	148.0	431.2
Females	159.6	202.8	195.7	363.2	861.3
Persons	**159.6**	**341.7**	**339.9**	**451.2**	**1292.5**
			–Per cent–		
	12.3	26.4	26.3	34.9	100.0

INVALID PENSIONERS, BY AGE: 30 JUNE 1979

	16–19 years	*20–44 years*	*45–59 years*	*60–64 years*	*65 years and over*	*Total*
			–'000–			
Males	4.3	34.9	64.7	41.9	4.0	149.8
Females	3.5	26.1	39.0	1.0	0.6	70.1
Persons	**7.8**	**61.0**	**103.7**	**42.9**	**4.5**	**219.8**
			–Per cent–			
	3.5	27.8	47.2	19.5	2.0	100.0

AGE AND INVALID PENSIONS: SUMMARY

		1976–77	*1977–78*	*1978–79*
Age pensions—				
Number admitted during year		111,986	120,560	(*a*)96,184
Number at end of year		1,205,347	1,264,778	1,292,476
Per cent of aged population(*b*)	%	76.5	78.3	77.9
Total payments during year(*c*)	$'000	2,483,563	2,933,897	3,229,013
Average weekly pension at end of year(*c*)	$	43.04	46.69	47.99
Invalid pensions—				
Number admitted during year		40,403	43,173	43,804
Number at end of year		202,963	204,944	219,843
Total payments during year(*c*)	$'000	511,019	598,375	690,357
Average weekly pension at end of year(*c*)	$	45.81	48.05	50.52

(*a*) Excludes transfers from wives' pensions. (*b*) Per cent of persons of pensionable age (males aged 65 years and over and females aged 60 years and over). (*c*) Includes allowances, supplementary assistance and wives' pensions where applicable.

Sheltered employment allowance and associated payments

Sheltered employment allowance is payable to disabled people who are employed in sheltered workshops and are otherwise qualified to receive an invalid pension or would become so qualified if they ceased to be provided with sheltered employment. The allowance is subject to the same income test as applies to invalid pension and is paid at the same rate. It is payable in the form of a supplement to the sheltered employee's wages. The allowance is not taxable unless the sheltered employee has reached age pension age.

A sheltered employee is entitled to the same additional payments as an invalid pensioner except that no supplementary assistance is payable. Instead, all people in receipt of sheltered employment allowance receive an incentive allowance of $5 a week. There is no income test on the allowance, but a person precluded by his or her income from receiving sheltered employment allowance is not entitled to incentive allowance.

All sheltered workshops are required to pay sheltered employment allowances on behalf of the Department of Social Security. At 30 June 1979, 145 workshops were paying the allowance to 7,034 disabled employees. Expenditure during the year 1978–79 was $18,733,000.

Widows' pensions and associated payments

There are three categories of widow pensioners:

Class 'A'. A widow who has the custody, care and control of one or more qualifying children under the age of sixteen years or dependent full time student aged 16–24;

Class 'B'. A widow who, because she has no qualifying children or students in her custody, care and control, is not eligible for a Class 'A' widow's pension but is either at least 50 years of age or, after having reached the age of 45, has ceased to receive a Class 'A' pension by reason of ceasing to have the custody, care and control of a qualifying child or student; and

Class 'C'. A widow not eligible for Class 'A' or Class 'B' widow's pension, who is under 50 years of age and is in necessitous circumstances following her husband's death. In normal circumstances, the Class 'C' pension is not payable after 26 weeks have elapsed from the death of the husband, but if the widow is pregnant the period is extended until the child's birth, whereupon the widow may then become eligible for a Class 'A' widow's pension.

For classes 'A' and 'B', the term 'widow' includes: a wife who has been deserted by her husband for a period of at least six months; a divorcee; and a woman whose husband has been in prison for at least six months and a woman whose husband is a mental hospital patient. A woman who, although not legally married, has been living with a man for at least three years as his wife on a *bona fide* domestic basis and subsequently loses her partner by reason of death is treated as though she had been legally married to him.

A period of residence in Australia before claiming a pension is not required if a woman and her husband were residing permanently in Australia when she became a widow. In other circumstances, five years continuous residence preceding lodgment of the claim may be required, but this is waived in the case of a woman whose husband has died overseas if she has resided continuously in Australia for ten years at any time and returns to Australia to live.

A widow's pension is not payable to a woman receiving an age or invalid pension, a supporting parent benefit, an unemployment or special benefit, a sheltered employment allowance, or a war widow's pension. A deserted wife or a divorcee who has not taken reasonable action to obtain maintenance from her husband or former husband may be ineligible for a widow's pension.

Current rates of pension. With effect from November 1979, the maximum rate of pension for all classes of widow is $3,010.80 per annum ($57.90 a week) plus, in the case of widows with children, a mother's allowance of $208 per annum ($4 a week) or $312 per annum ($6 a week) where at least one child is under 6 or is an invalid requiring full-time care, plus $390 per annum ($7.50 a week) for each dependent child who is under 16 years or is a dependent full-time student. Supplementary assistance of up to $260 a year ($5 a week) is also available to widows who pay rent, or for board and lodgings or for lodgings, and who are wholly or substantially dependent on their pension. The amount of this assistance cannot exceed the amount of rent paid.

Income test. Widow's pensions are subject to an income test and are taxable. The income test for widows' pensions also applies to recipients of the supporting parent's benefit described below. The rate of pension payable depends on the claimant's income as assessed. As for age and invalid pensions, some types of income are disregarded for purposes of calculating income as assessed. For Class 'A' and 'B' widows and supporting mothers, the annual maximum standard rate of pension plus any additional allowances is reduced by half of the amount of any income as assessed in excess of $1,040. There is no specific income test for the Class 'C' pension, which is paid only where it is evident that a widow has insufficient means of support. Supplementary assistance is reduced by the amount by which income as assessed exceeds $52.

It should be noted that a deserted wife ineligible for Class 'A' or Class 'B' widow's pension because six months have not expired from the date of desertion by her husband may be eligible for assistance from the Government of the State in which she lives. The Commonwealth Government subsidises the State Governments for this purpose under the States Grants (Deserted Wives) Act. It also assists deserted wives in the Territories during the first six months after desertion.

CLASS A AND B WIDOW PENSIONERS, BY AGE: 30 JUNE 1979

Category	*Under 20*	*20–29*	*30–39*	*40–49*	*50–59*	*60 and over*	*Total*	*Per cent*
				–'000–				
Class 'A'	0.2	18.4	34.6	23.7	11.5	0.3	88.7	55.2
Class 'B'	–	–	–	2.7	53.6	15.6	71.9	44.8
Total Class 'A' and 'B'	**0.2**	**18.4**	**34.6**	**26.4**	**65.1**	**15.9**	**160.6**	**100.0**
				–Per cent–				
	0.1	11.5	21.5	16.4	40.5	9.9	100.0	..

At 30 June 1979, 89,069 widow pensioners were receiving additional pension for 174,810 children.

WIDOWS' PENSIONS: SUMMARY

Year	*Number admitted —all classes (a)*	*Pensions current at end of year*				*Average weekly pension at end of year (b)*	*Amount paid in pensions during year (b) (c)*
		Class 'A'	*Class 'B'*	*Class 'C'*	*All classes*		
						$	$'000
1973–74	26,204	64,084	51,137	89	115,310	32.79	180,957
1974–75	24,636	66,518	54,177	96	120,791	44.89	241,392
1975–76	27,609	71,009	58,408	74	129,491	49.90	325,260
1976–77	32,468	76,059	63,329	97	139,485	55.71	370,201
1977–78	34,624	82,392	67,461	103	149,956	59.90	439,497
1978–79	36,830	88,683	71,941	123	160,747	61.53	499,349

(*a*) Excludes transfers from one class to another. (*b*) Includes supplementary assistance and allowances. (*c*) Includes payments to benevolent homes for maintenance of pensioners.

Supporting parent's benefit

Supporting parent's benefit was introduced in November 1977 to extend to supporting fathers the same benefit as had previously been available to supporting mothers through supporting mother's benefit. The benefit is for any lone mother who is supporting a child and who is either not entitled to, or does not wish to claim widows pension, and to lone fathers who are supporting a child; parents who are the deserted or deserting partner of a de facto relationship, de facto spouses of prisoners or separated spouses. The benefit becomes payable six months after the date of the event giving rise to eligibility (e.g. six months after the date of birth of a child, or six months after the date of separation). A supporting parent is qualified to receive a benefit if he/she is residing in Australia on the date on which he/she lodges his/her claim for the benefit and, if unmarried, the child was born while he/she was residing in Australia; or, in the case of a married person living apart from his/her spouse, he/she was residing in Australia immediately before they commenced to live apart; or, in the case of a deserted partner of a de facto relationship or the de facto spouse of a prisoner, if he/she was residing in Australia immediately before the de facto relationship ceased; or if a person has been continuously resident in Australia for not less than five years immediately preceding the date on which he/she lodged a claim for the benefit. To be eligible for the benefit a person must be supporting an eligible child under the age of 16 years, or an older, dependent, full-time student. The rate of supporting parent's benefit, including guardian's allowance and payments for children, is the same as for the Class 'A' widow's pension. It is also subject to the same income test as the Class 'A' widow's pension and is taxable.

It should be noted that a woman ineligible for supporting parent's benefit because six months have not expired from the date of the event otherwise giving rise to eligibility may be entitled in the meantime to assistance from the Government of the State in which she lives. The Commonwealth Government subsidises the States for this purpose under the States Grants (Deserted Wives) Act. If the woman is living in one of the Territories, the Commonwealth Government may make assistance available in the first six months after desertion.

SUPPORTING PARENTS BY AGE AND TYPE: 30 JUNE 1979

Type of beneficiary	*Under 20*	*20–29*	*30–39*	*40–49*	*50–59*	*60 and over*	*Total*	*Per cent*
				–'000–				
Unmarried mother	4.9	17.2	3.6	0.7	0.1	–	26.6	42.5
Deserting females	0.2	6.5	5.8	2.2	0.5	–	15.2	24.3
Other female	0.7	8.1	6.0	2.3	0.6	–	17.6	28.1
Male	–	0.4	1.2	1.0	0.5	–	3.1	5.0
Total	**5.8**	**32.2**	**16.6**	**6.1**	**1.7**	**0.1**	**62.5**	**100.0**
				–Per cent–				
	9.2	51.5	26.6	9.8	2.7	0.1	100.0	..

At 30 June 1979, 62,498 supporting parents were receiving additional benefit for 105,333 children.

SUPPORTING PARENT'S BENEFIT: SUMMARY

		1976–77	*1977–78*	*1978–79*
Number admitted during year		20,528	25,935	26,451
Beneficiaries current at end of year—				
Females		50,954	57,433	59,365
Males		–	2,069	3,133
Total		*50,954*	*59,502*	*62,498*
Average weekly benefit at end of year (*a*)	$	65.09	69.37	70.99
Amount paid in benefits during year (*a*)	$'000	158,483	192,825	226,680

(*a*) Includes supplementary assistance and allowances.

Fringe benefits

The Commonwealth Government makes available to pensioners and recipients of supporting parent's benefits several 'fringe benefits'. In most cases these are subject to a special income test. These benefits include:

- a comprehensive range of pharmaceuticals free of charge;
- a one-third reduction in telephone rental—this is available to the blind without an income test;
- a 50 per cent reduction in fares for Commonwealth Government railway and shipping services;
- certain postal concessions;
- a 10 per cent discount on book purchases from Australian Government Publishing Service Bookshops (this is available free of income test);
- free hearing aids;
- the availability without charge of certain pharmaceutical prescriptions;
- free optometrical consultations; and
- nursing home benefits without joining private hospital insurance fund.

State Governments, local government authorities and private organizations also provide certain fringe benefits. The most valuable of these are reductions in local government rates and in public transport charges.

The income test operates on the basis of income as assessed as defined for pension purposes. A single pensioner whose income as assessed is less than $2,080 qualifies for those fringe benefits subject to the income test. A married pensioner couple qualify if their combined income as assessed is less than $3,536.

Funeral benefits

A benefit of up to $40 is payable to an eligible age, invalid, wife, widow pensioner or supporting parent beneficiary who is liable for the funeral costs of another such deceased pensioner, a deceased child or a deceased spouse. A benefit of up to $20 is payable to any (other) person liable for the funeral costs of a deceased age or invalid pensioner in respect of whose burial a funeral benefit may be granted. These benefits are subject to the 'fringe benefits' income test, applied in the first case to the person liable for the funeral costs and in both cases to the income of the deceased pensioner or beneficiary (where relevant) prior to his or her death.

FUNERAL BENEFITS GRANTED

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
$20 grants in respect of—						
Age or invalid pensioners	25,279	27,333	24,190	25,436	23,905	22,168
Others	16	18	17	13	20	23
Total	*25,295*	*27,351*	*24,207*	*25,449*	*23,925*	*22,191*
$40 grants in respect of—						
Age or invalid pensioners	24,995	25,879	24,195	24,720	24,590	24,022
Others	2,277	2,233	1,898	1,447	1,294	944
Total	*27,272*	*28,102*	*26,093*	*26,167*	*25,884*	*24,966*
Total grants	**52,567**	**55,453**	**50,300**	**51,616**	**49,809**	**47,157**

Total cost of funeral benefits granted during 1978–79 was $1,461,000.

Portability of social service payment

Age, invalid and widows' pensions and supporting parent's benefits continue in force for recipients who have left Australia unless they left before 8 May 1973 or their pension or benefit is subject to the provisions of either of the reciprocal agreements with New Zealand or the United Kingdom. In certain cases of hardship, the pension or benefit may continue for people who left before 8 May 1973.

Maternity allowances

Maternity allowance ceased to be payable on 1 November 1978, except for births occurring before that date.

Family allowances

An approved institution of which children are inmates or a person who is resident in Australia and has the custody, care, and control of one or more children under the age of sixteen years or of a full-time student sixteen or more but under twenty-five years, is qualified to receive a family allowance in respect of each such child or student. Full-time students are those receiving full-time education at a school, college or university and who are not in employment or engaged in work on their own account. There are provisions to maintain the rate of payment which would be paid to a unified family, in cases where the family is divided because of divorce, separation, unemployment or death of a parent. There is also provision for family allowance to be shared between two persons. There is no income test.

Twelve months residence in Australia is required if the claimant and the child were not born here, but this requirement is waived if the Department of Social Security is satisfied that they are likely to remain in Australia permanently. Where the child's father is not a British subject, family allowance is payable if the child was born in Australia, if the mother is a British subject, or if the Department is satisfied that the child is likely to remain permanently in Australia. Under certain conditions, family allowance may be paid to Australians who are temporarily absent overseas.

From 1 January 1979 family allowance was no longer paid for students receiving Tertiary Education Assistance Scheme or other related Commonwealth education allowances.

Rates of allowance. Since June 1976 the weekly rates have been: $3.50 for the first or only child; $5.00 for the second; $6.00 for the third; $6.00 for the fourth; and $7.00 for each subsequent child. The rate payable for each child or student in an approved institution is $5.00 a week.

The following table shows, as at 30 June 1979, the number of families and the number of children under sixteen years and students aged 16 to under 25 years in respect of whom family allowance is paid, in family groups classified according to the number of children or students in the family group. The families included in the table are not necessarily made up entirely of the children of one marriage, but may include step-children, foster children, adopted children, and any other children in the custody, care and control of the claimant.

FAMILY ALLOWANCES: NUMBER OF CHILDREN AND STUDENTS IN FAMILIES 30 JUNE 1979

Number of children and students in family group	*Families*	*Children and students*
1	694,351	694,351
2	811,104	1,622,208
3	384,281	1,152,843
4	123,490	493,960
5	31,955	159,775
6	9,966	59,796
7	3,232	22,624
8	1,113	8,904
9	409	3,681
10	109	1,090
11	38	418
12	18	216
13	7	91
14	1	14
15 or more	2	35
Total	**2,060,076**	**4,220,006**

FAMILY ALLOWANCES: SUMMARY

		1976–77	*1977–78*	*1978–79*
Children and students at end of year in—				
Families		4,287,758	4,291,299	4,220,006
Approved institutions		14,586	13,388	10,967
Total		*4,302,344*	*4,304,687*	*4,230,973*
Families at end of year		2,051,673	2,071,058	2,060,076
Approved institutions at end of year		504	493	550
Amount paid during year	$'000	1,023,303	1,038,115	(*b*)974,866

(*a*) Prior to the introduction of the revised family allowance system in June 1976, statistics of child and student endowments were recorded separately. Consequently the combined number of families is not available. (*b*) Does not include $22,714,000 paid in respect of family allowance payday 3 July 1979.

Double orphan's pension

This pension is payable to the guardian of a child whose parents or adoptive parents are both dead, or one of whom is dead and the other missing. It is also payable in cases where one parent is dead and the other is a long-term inmate of a prison or mental hospital. Payment is made for orphans who are under 16 years or who are full-time students under 25. There is no income test. The pension is payable at the rate of $11 a week for each eligible child. A double orphan's pension is not payable if the child attracts a war orphan's pension under the Repatriation Act. The number of double orphan's pensions at 30 June 1979 was 3,654. The expenditure on these pensions during the year 1978–79 was $1,948,000.

Handicapped child's allowance

Parents or guardians of a child under 16 years or a dependent full time student who is severely handicapped mentally and/or physically, is living in the family home, and needs constant care and attention, are entitled to a handicapped child's allowance of $15 a week. The allowance is not subject to an income test, but a residence qualification similar to that for family allowance applies. The allowance is also available to persons on low income who are caring for a substantially handicapped child and are suffering severe financial hardship as a result of expenditure associated with the child's disability. The number of handicapped child's allowances being paid at 30 June 1979 was 23,748. The total amount paid through these allowances during the year 1978–79 was $16,531,000.

Unemployment and sickness benefits and associated payments

Unemployment and sickness benefits are paid to men over sixteen and under sixty-five years of age, and to women over sixteen and under sixty years of age, who are unemployed or temporarily incapacitated for work and are thereby suffering loss of income. They must have been living in Australia during the preceding twelve months or be likely to remain permanently in Australia. Both benefits are subject to an income test. A person cannot receive both benefits simultaneously, nor can a person receive either benefit at the same time as an invalid, widow's, repatriation service pension or supporting parent's benefit.

For unemployment benefit purposes, a person must establish that he is unemployed, that his unemployment is not due to industrial action by himself or by members of a union of which he is a member, that he is capable and willing to undertake suitable work, and that he has taken reasonable steps to obtain such work. Registration for employment with a District Employment Office of the Commonwealth Employment Service is necessary. For sickness benefit purposes, a person must establish that he is temporarily incapacitated for work because of sickness or accident and that he has thereby suffered a loss of salary, wages or other income.

Rates of Benefit. The maximum weekly rates of unemployment and sickness benefit payable, and the permissible income in respect of benefit periods which commenced after the introduction of increased benefits in November 1979, are as follows:

	Maximum Weekly Rate		
	Unemployment benefit	*Sickness benefit*	*Permissible weekly income*
	$	$	$
Married person (including additional benefit for spouse)	96.50	96.50	6.00
Single person aged 21 or more with dependants	57.90	57.90	6.00
Single person aged 21 or more, no dependants	51.45	57.90	6.00
Single person aged 18 to 20 with dependants	57.90	57.90	3.00
Single person aged 18 to 20, no dependants	51.45	57.90	3.00
Single person under 18 years	36.00	36.00	3.00

These amounts are increased by $7.50 for each child under 16 years or full-time student in the care of the beneficiary.

After the benefit has been paid for six consecutive weeks a sickness beneficiary who is paying rent or is paying for lodgings or board and lodgings may be entitled to supplementary allowance of up to $5.00 a week. The amount of any such allowance cannot exceed the amount of rent paid.

The weekly rate of benefit is reduced by the amount by which a beneficiary's other income exceeds the amount of permissible income. The income of the spouse is also taken into account unless the claimant and his spouse are permanently separated. For sickness benefit purposes the income from an approved friendly society or other similar approved body in respect of the incapacity for which sickness benefit is payable is disregarded. 'Income' does not include family allowance or other payments for children, health benefits and payments from Medibank or registered benefit organisations, or an amount paid in reimbursement of medical, dental or similar expenses. The supplementary allowance is reduced by the amount by which a beneficiary's other income exceeds $1.00 a week in the case of a single person and by half of the excess of the beneficiary's income over $2.00 a week in the case of a married person.

The amount of compensation, damages or similar payment, or war pension, if paid in respect of the same incapacity as that for which sickness benefit is claimed, is deducted from the sickness benefit if it is paid in respect of the same period. If it is not paid in respect of the same incapacity, compensation in respect of the same period is regarded as income and war pension is ignored.

There is a waiting period of seven days during which unemployment or sickness benefit is not usually payable, but this waiting period is not required to be served more than once in any period of thirteen weeks.

Special benefit

A special benefit may be granted to a person not qualified for unemployment or sickness benefit who is not receiving an age, invalid or widow's pension, a service pension or a tuberculosis allowance and who, because of age, physical or mental disability or domestic circumstances, or any other reason, is unable to earn a sufficient livelihood for himself and his dependants. Recipients of special benefits include, among others, unmarried women for a period before and after the birth of a child, persons caring for invalid parents or sick relatives/children, persons ineligible for a pension because of lack of residence qualifications and persons remanded in custody pending court proceedings.

Special benefits are also paid to immigrants who are in Commonwealth Government centres or hostels awaiting their first placement in employment in Australia. During this time they receive a short instruction in English and in Australian conditions to facilitate their assimilation into the community and employment.

No income test or residence requirement is laid down, but there is an overriding requirement that a person must be suffering hardship to be granted a special benefit.

The maximum rate of special benefit is the same as for unemployment benefit.

UNEMPLOYMENT, SICKNESS, AND SPECIAL BENEFITS: SUMMARY

	Number admitted to benefit during year			*Average number of persons on benefit at end of each week*			*Amount paid in benefits*		
Year	*Unemployment*	*Sickness*	*Special (a)*	*Unemployment*	*Sickness*	*Special (a)*	*Unemployment*	*Sickness*	*Special (a)*
							($'000)	($'000)	($'000)
1973–74	229,231	118,190	16,698	34,148	20,655	4,480	58,246	41,407	6,983
1974–75	701,302	131,377	19,633	116,603	24,346	5,331	251,740	62,833	10,992
1975–76	891,904	153,869	36,805	191,723	28,081	6,821	513,923	92,215	17,198
1976–77	803,461	148,508	41,502	215,871	32,385	8,181	618,074	105,408	21,913
1977–78	879,637	145,910	45,014	265,828	34,724	10,272	794,144	117,929	30,318
1978–79	810,500	133,000	52,850	306,200	33,400	12,600	910,012	113,263	37,660

(*a*) Includes immigrants in Government centres or hostels awaiting their first placement in employment in Australia.

Social Security Appeals Tribunals

The Social Security Appeals System provides for persons who are aggrieved by decisions of the Department of Social Security to have a right of appeal to a Social Security Appeals Tribunal. The Tribunals operate in each State and in the Australian Capital Territory and the Northern Territory.

Before any appeal is initiated, when a client of the Department of Social Security is informed of an adverse decision he is also informed that, if he is dissatisfied, he may contact a Review Officer in the Department personally or by telephone, who will be pleased to discuss the case and, if necessary, will review the decision without delay. If the client remains dissatisfied, the Review Officer will explain the Appeals System and, if required, assist the client to lodge an appeal with a Tribunal.

Each Tribunal consists of a full-time member seconded from, but independent of, the Department and two part-time members—one a lawyer and one experienced in the welfare field. A Tribunal considers the substantial merits of each case without regard to legal forms and technicalities and seeks to ensure that justice is done between the appellant and the Department.

The Tribunals have no power to change decisions but may make recommendations to the Director-General of Social Security that a departmental decision should be changed. The final decision lies with the Director-General who may, but need not, accept the recommendation of a Tribunal.

The Minister for Social Security has announced that jurisdiction is to be vested in the Administrative Appeals Tribunal to provide for clients of the Department of Social Security to have a further right of appeal to the Administrative Appeals Tribunal where the final decision of the Director-General is not in accordance with a recommendation of a Social Security Appeals Tribunal. The relevant regulations will soon be promulgated when administrative arrangements have been completed.

Reciprocal social services agreements with other countries

New Zealand. An agreement between the Governments of Australia and New Zealand for reciprocity in social services came into operation on 3 September 1943 and was amended from 1 July 1949. The reciprocal arrangements cover age and invalid pensions, widow's pensions, family allowance and unemployment and sickness benefits, and apply to both permanent and temporary changes of residence. Residence in one country may be treated as residence in the other country in relation to entitlement to benefits in which a residential qualification applies. Persons from one country taking up a permanent residence in the other country become eligible for any of the specified benefits of the new country under the same conditions (with one or two exceptions) as apply to citizens of that country. Persons in receipt of any of the specified benefits in one country may continue to receive those benefits while temporarily absent in the other country. There is a limit of 13 weeks on payment of New Zealand benefits in Australia.

United Kingdom. Under a reciprocal agreement on social services between the United Kingdom and Australia, residence in one country may be treated as residence in the other country as the basis for entitlement to benefits in which a residential qualification applies. Australians going to the United Kingdom for permanent residence are treated in the United Kingdom as if they have been insured under the National Insurance Scheme while in Australia, so that they can qualify for various National Insurance benefits. There is also provision for the safeguard of social service rights for persons going from one country to the other for temporary residence.

Commonwealth Rehabilitation Service (CRS)

The Commonwealth Rehabilitation Service assists people who are unable to work because of long-term disability or who have had to give up their employment because of sickness or injury. It aims to help disabled people to reach their maximum physical, mental and social usefulness and to assist them to live as independently as possible. Towards this aim, it provides co-ordinated programs of treatment and training to meet the special needs of each disabled person. Responsibility for the delivery of these services rests with the twelve residential and day-attendance centres and the thirteen regional rehabilitation units which are currently operated by the service.

The CRS assists all persons within the broad working age group who, in spite of substantial handicaps can be assisted to live at home. Those who are capable of doing some form of work are given, where practicable, part-time housebound or sheltered employment.

Rehabilitation may also be made available to people aged 14 or 15 years who, without treatment or training, would be likely to qualify for invalid pension at age 16; to national servicemen and members of the permanent forces who are disabled at time of discharge but are ineligible for rehabilitation assistance from the Department of Veterans' Affairs; and to people who become disabled while working for the Commonwealth Government and are covered by the *Compensation (Commonwealth Employees) Act,* 1971. People from these groups may be selected for rehabilitation if their disabilities are a substantial handicap but they would benefit from its services.

For those eligible, payment of pension or benefit continues during treatment. When vocational training begins, pension or benefit is suspended and replaced by training allowance. This allowance is determined by the Director-General, Department of Social Security, having regard to the adult male average award wage. Living-away-from-home allowance is paid where necessary. Fares and living expenses (including those of an attendant where required) in connection with treatment, training or attendance for an interview or for medical examination may also be paid. Necessary artificial replacements, surgical aids and appliances may be provided free of charge to a person receiving treatment and training or who needs them to assist him to engage in a suitable vocation after the discontinuance of his treatment and training or who needs them otherwise to assist in his rehabilitation.

Treatment, training and assessment programs are undertaken at rehabilitation centres where occupational therapists, vocational counsellors and qualified trade and commerce teachers determine the skills which make best use of ability and which are best adapted to the person's needs. In addition to the services provided at each centre, technical schools, business colleges, universities, training on-the-job in commerce or industry and correspondence courses are all used for training purposes. Essential text books and equipment may be provided during treatment or training; alternatively, these may be supplied after treatment or training is discontinued to enable a rehabilitee to engage in employment.

Throughout the process of rehabilitation, counsellors maintain contact with the disabled person and provide guidance and encouragement where necessary. The Commonwealth Rehabilitation Service currently employs 88 such counsellors who play a significant role in the co-ordination of the non-medical aspects of rehabilitation.

Between its inception in 1948 and 30 June 1979, the Rehabilitation Service has assisted some 57,976 severely handicapped people.

Compassionate allowances

These allowances are paid by the Commonwealth Government on a discretionary basis to certain people who are unable to qualify for pensions or other benefits under provisions of the Social Services Act. Expenditure on compassionate allowances and payments of a similar nature, excluding war relief measures, during 1978-79 was $13,564.

Commonwealth Government assistance to welfare organisations

The *Aged or Disabled Persons Homes Act* 1954 is designed to encourage the provision of homes in which aged persons may reside in conditions approaching normal domestic life.

To be eligible for assistance under the Act an organisation must be:

(i) carried on otherwise than for the purposes of profit or gain to the individual members; and

(ii) a religious organisation, an organisation of which the principal objects or purposes are charitable or benevolent, an organisation of former members of the defence forces established in every State or a State branch of such an organisation, an organisation approved by the Governor-General for the purposes of the Act, or a local governing body.

An organisation conducted or controlled by, or by persons appointed by, the Commonwealth or any State Government is not eligible for assistance under the Act.

The Director-General of the Department of Social Security or his delegate may make a grant of money to an organisation as assistance towards meeting the cost of the construction or purchase of a home, including land, to be used permanently for the accommodation of aged persons. The grant is made on a basis of $2 for each $1 raised by the organisation but is limited to $12,100 for a single unit of accommodation and $14,035 for a double unit plus up to $1,920 per unit for land. Money which the organisation received from a governmental body other than a local governing body does not attract subsidy.

Before a grant is made the Director-General must be satisfied that the sum of the money expended and the money at present available for expenditure by the organisation towards the capital cost of the home, together with the amount of the grant, will be not less than the capital cost of the home.

The following table gives information regarding grants approved for each of the past six years. The amounts granted in each year include new grants approved in that year together with adjustments made during the year in respect of grants originally approved in earlier years.

AGED OR DISABLED PERSONS HOMES: GRANTS AND AMOUNTS APPROVED AND BEDS PROVIDED

		1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Grants approved	No.	171	228	33	71	126	74
Amount approved	$'000	18,999	37,299	10,531	21,381	23,719	20,357
Beds provided—							
Self-contained	No.	1,899	2,243	385	233	505	376
Hostel	„	669	675	181	769	428	310
Nursing	„	849	992	52	1,015	1,225	884
Total	„	**3,417**	**3,910**	**618**	**2,017**	**2,158**	**1,570**

Since the commencement of the Act in December 1954, 3,442 grants amounting to $300,789,188 have been approved, and accommodation has been provided for 62,497 aged and disabled persons.

The Aged or Disabled Persons Homes Act also provides a *personal care subsidy* of $15 a week paid to eligible organisations for persons of eighty years of age or over and other persons requiring and receiving approved personal care while living in hostel type accommodation provided by organisations eligible under the Aged or Disabled Persons Homes Act. The following table gives details of the premises approved, payments made and number of residents aged eighty years or over residing in the approved premises.

AGED OR DISABLED PERSONS HOMES ACT: PERSONAL CARE SUBSIDIES, 30 JUNE 1979

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Approved premises	No.	196	173	117	76	68	21	3	2	656
Residents qualifying	No.	5,214	4,412	3,035	2,333	1,966	551	24	36	17,571
Percentage of qualifying residents to total residents	%	56.10	59.00	53.26	66.80	72.20	85.16	36.92	48.00	59.62
Subsidies paid, 1978–79	$'000	3,778	3,496	2,210	1,813	1,630	411	16	20	13,375

The *Aged Persons Hostels Act* 1972 was introduced to stimulate the provision of more hostel-type accommodation for needy aged people.

Under the scheme the Commonwealth Government meets the full cost of providing new hostel accommodations for two aged people for every one at present in an eligible unsubsidised home, or for one additional person for every two in a home previously subsidised on a dollar-for-dollar basis between 1954 and 1957. The organisation is not required to make any contribution from its own resources unless the capital cost exceeds $18,150 per person accommodated, or the bed capacity of the new home exceeds the number of 'free' beds to which the organisation is entitled. A further grant of up to $250 for each person accommodated is available for furnishing the new hostel plus an additional $2,400 per person for land and/or site development where applicable.

The scheme was limited to a period of three years expiring on 27 September 1975 to encourage organisations to move quickly in taking advantage of the benefits the scheme offered.

This Act had the effect of placing the old established organisations which conducted homes prior to the introduction of the $2 for $1 scheme in the same relative position as that achieved by newer organisations which had received a $2 for $1 subsidy, i.e. where two-thirds of their accommodation was provided by the Government.

Admission to these homes is based strictly on need with regard to the applicant's health, age, accommodation and financial situation. Since the commencement of the Act, 300 grants have been approved, totalling $154,219,931 as at 30 June 1979.

Although the Act was terminated for the purposes of approving new projects, amending legislation has preserved the rights of organisations whose projects have been accepted under the Act, but which for one reason or another did not proceed.

AGED PERSONS HOSTELS ACT: SUMMARY OF GRANTS

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Number of grants during year	55	148	12	51	53	36
Beds provided—						
Hostel beds	2,111	5,385	393	1,574	1,704	1,463
Staff beds	64	174	17	56	56	34
Total	**2,175**	**5,559**	**410**	**1,630**	**1,760**	**1,497**
				-$'000-		
Amount paid during year—						
Capital grants	16,500	57,385	11,527	26,562	28,658	27,399
Furnishings grants	535	1,357	104	396	442	390
Total	**17,035**	**58,742**	**11,631**	**26,957**	**29,100**	**27,789**

The *Handicapped Persons Assistance Act* 1974–76 replaced both the *Sheltered Employment (Assistance) Act* 1967 and the *Handicapped Children (Assistance) Act* 1970. Under this legislation, eligible organisations may apply for subsidies towards the cost of providing capital projects, maintenance and equipment. Grants are also available in respect of rental and certain salary payments.

Grants on purchases of buildings, equipment etc. take the form of a $4 subsidy for each $1 raised by an eligible organisation from non-government sources. Rent is subsidised at a rate equal to 80 per cent of the approved rental paid subject to certain conditions. Salary costs may be subsidised to an amount equal to 100 per cent of salary paid to staff employed in new ventures, but this is reduced to 50 per cent after the premises have been providing the service for 2 years or more.

As well as assisting organisations with establishment and running costs, the legislation also provides financial encouragement to sheltered workshop administrators to provide the type of training for the handicapped which will prepare them, where possible, for open employment. A *training fee* of $500 is paid to organisations providing approved sheltered employment for each handicapped employee who, having received at least 6 months training in the workshop, graduates to open employment and remains there for at least 12 months.

Introduction of the Handicapped Persons Assistance Act in December 1974 also saw the legal transfer of the administration of Handicapped Children's Benefit from the Commonwealth Department of Health to the Department of Social Security. Where an organisation provides approved residential accommodation for mentally or physically handicapped children under 16 years, it becomes entitled to receive a Commonwealth benefit of $5.00 per day in respect of each resident child.

HANDICAPPED PERSONS ASSISTANCE ACT: SUMMARY OF EXPENDITURE

	1976–77	*1977–78*	*1978–79*
Approved premises(*a*)	952	949	1,000
Number of capital grants during year (*b*)	2,021	2,290	1,265
Total expenditure during year (*c*)—		-$'000-	
New South Wales (*d*)	8,405	12,554	14,280
Victoria	7,589	8,845	11,849
Queensland	3,943	5,243	6,521
South Australia (*e*)	5,570	6,314	8,284
Western Australia	3,472	3,623	5,065
Tasmania	1,006	1,291	1,600
Total	**29,985**	**37,870**	**47,599**

(*a*) Total approved sheltered workshops, activity therapy centres, training centres and residentials as at 30 June. (*b*) Residential and non-residential buildings, equipment and maintenance. (*c*) Includes capital and recurrent expenditure. (*d*) Includes Australian Capital Territory. (*e*) Includes Northern Territory.

HANDICAPPED CHILDREN'S BENEFIT

	1976–77	*1977–78*	*1978–79*
Approved handicapped persons homes(*a*)	92	95	106
Handicapped children accommodated(*a*)	1,497	1,349	1,151
Days of benefit paid during year	380,249	337,212	340,431
Total amount paid during year	$1,589,264	$1,686,912	$1,703,276

(*a*) As at 30 June.

The Homeless Persons Assistance Act was introduced in December 1974 to help non-profit organisations and local governing bodies which provide accommodation, food and social welfare services for homeless men and women.

The Act enables grants to be made to eligible organisations to meet the cost of purchasing, constructing, altering or renting buildings to be used as homeless persons' assistance centres, as well as to meet the cost of purchasing furniture, furnishings and equipment for such centres. Grants also meet half the salary of a social welfare worker employed at a centre. The amount of grants made for these purposes during 1978–79 was $1,805,821.

A subsidy is also available to help meet the cost of providing food and accommodation for homeless persons at an approved centre, or of meals provided at such centres for non-resident homeless persons. The rate of the food and accommodation subsidy has been prescribed at 75 cents per day and the rate of meals subsidy as 25 cents per meal. During 1978–79 the amount of this subsidy totalled $974,743.

The *Delivered Meals Subsidy Act* 1970 helps organisations to establish, maintain, expand and improve 'meals on wheels' services. The subsidy is at the rate of 30 cents for every meal provided on approved vitamin C supplement and 25 cents for each other meal provided by approved organisations. At 30 June 1979, 633 organisations had received a total subsidy of $12,522,343 under the Act. During 1978–79 the amount of this subsidy totalled $2,279,981. Organisations eligible for grants under the Act are the same as those specified under the Aged or Disabled Persons Homes Act.

Commonwealth Government assistance to States

The *States Grants (Deserted Wives) Act* 1968 provides for assistance to be given by the Commonwealth Government to the States in respect of aid for needy mothers with children where there is no breadwinner and the mothers are not eligible for benefits under the Social Services Act. Broadly, these include deserted wives during the first six months of desertion, wives during the first six months of the husband's imprisonment, deserted de facto wives, de facto wives of prisoners, other separated wives and unmarried mothers.

The type of assistance attracting a grant may be provided in the form of cash, food or clothing. The grant is made by the Commonwealth Government to the States on the basis of half the cost of the approved assistance paid to the mother, or half the amount of Class 'A' widow's pension or supporting parent's benefit which would have been payable had she been qualified to receive it, whichever is the lesser.

In 1978–79 payments by the Commonwealth Government amounted to $26,075,000.

The *States Grants (Home Care) Act* 1969 provides that the Commonwealth Government will share with participating States on a $1 for $1 basis the cost of developing approved housekeeping or other domestic assistance provided wholly or mainly for aged persons in their homes. The Commonwealth Government will also share on a $2 for $1 basis with participating States up to a maximum of two-thirds of the capital cost of approved senior citizens' centres as well as meeting on a $1 for $1 basis with the States the cost of a salary of a welfare officer employed by such a centre. All States participate in this scheme.

PAYMENTS TO STATES FOR HOME CARE, SENIOR CITIZENS' CENTRES, AND WELFARE OFFICERS, 1978-79
($)

State	*Home Care Services*	*Senior Citizens' Centres*	*Welfare Officers*	*Total*
New South Wales . . .	1,875,000	1,200,696	299,642	3,375,338
Victoria	3,449,532	607,979	350,421	4,407,932
Queensland	1,797,372	553,199	41,804	2,392,375
South Australia	915,127	423,069	65,037	1,403,233
Western Australia . . .	43,667	99,864	65,171	208,702
Tasmania	504,917	165,516	–	670,433
Total	**8,585,615**	**3,050,323**	**822,075**	**12,458,013**

Children's Services

The Children's Services Program is administered by the Office of Child Care, within the Department of Social Security. It provides grants to State governments and community organisations for a range of services for children and their families.

There have been two main thrusts to the Program: (i) Capital and recurrent contributions to sessional pre-schools, and (ii) Capital and recurrent grants for a range of other services for children and their families, including day care, out of school hours care and family support programs.

Since expenditure under the Program commenced in 1973 over 70 per cent has been allocated to support pre-schools. There has, however, been a change in emphasis in the program since mid 1976 towards the provision of day care and other services. Since 1 January 1977 assistance towards the recurrent costs of pre-schools has been in the form of block grants to State governments and the capital side of the pre-school program was completed in 1977–78.

EXPENDITURE ON CHILDREN'S SERVICES PROGRAM
($'000)

Year	*To or for States*		*Direct to organisations*		*Total*
	Pre-school	*Other child care*	*Pre-school*	*Other child care*	
1974–75	36,127	1,373	950	6,780	45,230
1975–76	46,535	2,235	494	14,706	63,970
1976–77	49,018	3,118	–	14,951	67,086
1977–78	45,994	7,006	–	18,197	71,197
1978–79	32,750	9,227	–	21,859	63,836

International Year of the Child (IYC)

The General Assembly of the United Nations declared 1979 as the International Year of the Child, a year in which the needs of all children would receive special attention.

Australia responded by setting up a number of national planning bodies representing Commonwealth and State Governments, non-governmental organisations and local committees in each State and Territory.

The theme of 'Care' was adopted and the following objectives were set:

- to raise the awareness of, and stimulate action to meet the needs of all children;
- to review and renew attitudes and approaches to the care of children;
- to identify, and initiate action to overcome inadequacies, duplication and inconsistencies in the provision of services to children;
- to highlight and accommodate the particular needs of disadvantaged children.

A major effort has been made to facilitate community involvement in meeting these objectives which was assisted by a very successful national publicity campaign.

The Commonwealth Government has approved over $1.4 million to fund projects for the International Year of the Child. In addition it has provided funding for the provision of a Secretariat to the IYC National Committee of Non-Governmental Organisations.

Other services of the Department of Social Security

The Department of Social Security provides a professional social work service and recently appointed Aboriginal Liaison Officers. It administers grants to major national welfare organisations or distinct bodies such as: Australian Council of Social Service, Australian Council on the Ageing, Australian Council for Rehabilitation of Disabled, Australian Council of Trade Unions for a research unit, Australian Pre-school Association and to non-government welfare agencies providing emergency relief or in financial difficulties.

To assist in its role of advising the Government on welfare policy, the Department of Social Security initiates, develops and evaluates experimental projects in social welfare and undertakes research studies.

The Department supports the work of the Social Welfare Research Centre at the University of New South Wales.

State Welfare Departments, the Australian Bureau of Statistics and the Department of Social Security are co-operating on a project to develop standardized social welfare statistics (WELSTAT).

The role of voluntary agencies

Voluntary agencies have played an important role in the provision of social welfare services in Australia since the earliest days of settlement. The oldest voluntary organisation in Australia is the Benevolent Society of New South Wales, founded in 1818 'to relieve the poor, the distressed, the aged and the infirm'. During the 19th century, voluntary agencies were active in all States providing: homes for orphan and abandoned children; industrial schools for older boys and girls often rescued from total destitution in the streets; relief in food and clothing for widows, old people and families of the unemployed; hospitals for the sick poor; and institutions for the aged and invalid.

Although in this century the Commonwealth and State Governments have taken over many tasks formerly carried out by voluntary agencies, this has not led to any diminution in voluntary activity. The voluntary sector is probably more active today than it has ever been, not only in carrying out its traditional role, but also in opening up new fields of activity.

In caring for the aged, voluntary agencies are co-operating with the Government in providing aged persons homes, retirement villages, hostels for the frail aged and nursing homes for the sick aged. In addition to the provision of residential care, voluntary agencies are increasingly offering services to the aged in their own homes to enable them to be independent as long as possible. Services include 'Meals on Wheels', home help, leisure programs in senior citizens centres, friendly visiting to the lonely aged, sheltered workshops to provide meaningful activity, and many similar services designed to enhance the well-being of the aged.

The same pattern of activity is seen in services for the mentally and physically handicapped. Voluntary agencies provide day and residential schools for handicapped children, sheltered workshops for those able to undertake some employment and hostels for the handicapped in both sheltered and open employment. Many organisations provide home visiting services and occupational therapy for the home-bound, special training centres for various forms of rehabilitation, and recreational programs for those unable to participate in general community activities. The handicapped field is also noted for its activities in bringing together self-help groups of the handicapped and their families to promote the well being of the handicapped and to encourage study and research into both prevention and rehabilitation.

Besides the various forms of health services described above, many major hospitals are provided by the voluntary sector. Of the approved hospitals in Australia, almost 15 per cent are run by voluntary organisations. Such hospitals cover a wide range of needs and, in addition, provide nursing training which may ultimately be of service to the full range of hospitals and nursing homes.

Family and child welfare has long been an important area for voluntary activity. Children's homes provide for children deprived of normal home life because of serious problems within the family, in a wide variety of units ranging from the small family group home in an ordinary house in the suburbs to the large unit of cottage homes grouped together. As with other services, recent years have shown a marked emphasis on preventive services through family welfare agencies and a greater use of substitute families in adoption and foster care programs.

Within the modern family welfare agency, assistance is given not only with money and food as in the last century, but also with marriage guidance, parental counselling and home-maker services, all designed to keep the family together as a unit. Other voluntary agencies run services for the single mother or provide day-care services to assist working mothers, in particular the one-parent family or the family under special strain.

The well-being of Australian youth is also a matter of concern to the voluntary sector which runs youth activities of many varieties, offers adolescent counselling services and is showing a growing concern for those who are unemployed, those suffering serious emotional disturbance and those becoming addicted to drugs.

As well as these general community services, special services for Aboriginals have been a feature of voluntary activity. Formerly, these were mainly concerned with the mission area, but of late many agencies have been formed, often run wholly by Aboriginals, to assist urban dwellers. Legal aid services, 'head start' programs, nutrition programs and many others are now being made available through voluntary effort.

The care of immigrants is also a significant activity and, again, much of this work is now undertaken by settled immigrants in conjunction with longer-established Australians.

Prisoners and ex-prisoners also receive their share of attention. Organisations exist to visit prisoners and assist their families. These will also assist prisoners on discharge to re-settle in the community, either at home, in lodgings or in hostels provided by the agency. Other agencies concern themselves with alcoholics, homeless men and women and others who are temporarily destitute.

This list of activities by no means covers all the work done by the voluntary sector. Lifeline and Samaritans, drug contact centres, drop-in coffee houses, street workers for alienated youth and many other services are evidence of the continuing ability of the voluntary sector of social welfare to develop and meet new social needs.

Another area of developing interest involves the participation of various kinds of citizen groups in social welfare services. These include Community Information Centres and Community Aid services largely manned by volunteers; groups of clients of social welfare services who provide both a service for their members and liaise with Departmental services on questions of the way service is offered to people in need; and Resident Action groups who are concerned to participate in any replanning of their neighbourhood. This area of citizen involvement can be expected to become more and more important over the next few years.

Studies of social needs and of the quality and the adequacy of present services are a continuing concern of the voluntary sector which, through the work of Councils of Social Service at the State, Territory and national levels, promotes the well-being of the deprived and disadvantaged sections of the community and the general social development of Australia.

Social Welfare Policy Secretariat

The Secretariat commenced operation in March 1978 and has a staff of 23 officers some of whom have been seconded from relevant Departments. The Secretariat works through a Permanent Heads Committee (comprising the Heads of the Departments of the Prime Minister and Cabinet, Finance, Health and Social Security) to the Social Welfare Committee of Cabinet.

The Secretariat is essentially a policy co-ordinating, research and servicing organisation. Its prime functions are to ensure the co-ordinated development and review of health and welfare policy; and that appropriate research activities are directed to these ends.

In developing its policy proposals the Secretariat consults with relevant Commonwealth Departments through a system of working parties in the areas of:

- income security
- health and welfare services
- data and evaluation.

Whenever relevant the views of interested organisations and individuals are also sought.

The Secretariat has also established special task forces to investigate issues which bridge the functions of individual working parties.

Aboriginal Welfare

A referendum in May 1967 led to the repeal of section 127 of the Constitution which provided that, in reckoning the numbers for census purposes, Aboriginals should not be counted, and to the deletion of the words 'other than the Aboriginal race in any State' from section 51 (xxvi) which relates to the power of the Commonwealth Parliament to make laws in respect to people of any race. The Commonwealth Government's aim is to help Aboriginals become self-managing and self-sufficient while, at the same time, to preserve and to develop their own distinctive culture. It now shares with the States power to legislate in respect of Aboriginal people. The Commonwealth Government has assumed full responsibility for policy, planning and co-ordination in respect of Aboriginal affairs at the national level, and has established a Department of Aboriginal Affairs with regional offices in all States and the Northern Territory. In November 1973, an election was held by Aboriginals throughout Australia to establish the first National Aboriginal Consultative Committee, a group of forty-one Aboriginals and Torres Strait Islanders elected to advise the Government on Aboriginal needs. At the request of the Committee, the second election, which was scheduled for November 1975, was deferred for nine months. Subsequently, the Government established an independent inquiry into the role of the Committee. As a result of the findings of this Committee of Inquiry, a National Aboriginal

Conference (NAC) has been established composed of thirty-five members who are elected for a period of three years. Members meet annually at the national level and at least 4 times each year in their State or Territory as State or Territory Branches of the NAC.

The executive which meets twice a year is comprised of 10 delegates; half are elected by the members and half are nominated by the Minister. The role of the NAC is to provide a forum in which Aboriginal views can be expressed at State and national level and, in particular, to express Aboriginal views on the long term goals and objectives which the Government should pursue, the programs it should adopt in Aboriginal affairs, and on the need for new programs in Aboriginal affairs. The NAC also participates, through its entitlement to choose five of the ten members, in the work of a new body, the Council for Aboriginal Development. This Council is the body from which the Government seeks formal advice.

Migrant welfare

Accommodation of migrants

Migrants must be assured of accommodation on arrival, unless they have sufficient funds to be independent. For those migrants nominated by relatives or friends, this initial accommodation has usually been in private homes. Assisted migrants and refugees nominated by the Commonwealth Government are provided with transitory accommodation in migrant hostels operated by Commonwealth Accommodation and Catering Services Ltd, a non-profit-making Government-sponsored company. These hostels provide a range of services to help migrants to settle in Australia, including child minding centres, English language classes, youth recreation activities, welfare officers and assistance in obtaining permanent accommodation.

The total capacity of hostels is about 9,600. Additionally 396 two and three bedroom self-contained flats can accommodate migrants nominated by the Commonwealth Government.

British assisted migrants nominated by State Governments are, in most cases, provided with initial accommodation in reception centres operated by the State authorities.

Ethnic affairs and migrant settlement

The Department of Immigration and Ethnic Affairs provides services to facilitate the successful settlement and welfare of migrants, and these services are currently being modified and extended in accordance with the *Report of the Review of Post-Arrival Programs and Services for Migrants* (1978) (the 'Galbally' Report).

In addition, the Department is responsible, through its Ethnic Affairs Branch, which was established in 1976 in accordance with a Cabinet decision, for advancing policies designed to secure the integration of migrants. In particular, through Ethnic Liaison Officers in senior positions in each Commonwealth Government Department and Authority, it seeks to ensure that the needs of migrants and their integration into Australian society are fully taken into account in the day-to-day operations of the Government.

Departmental social workers and welfare officers provide information and advice, and, in more complex cases, professional counselling for migrants in their own language. They operate from the Regional Offices of the Department in the State Capital cities and some are outposted to voluntary welfare organisations, and other centres in areas of high migrant density. They are also involved in community development work and provide consultancy services to other agencies assisting migrant settlement.

Departmental activities are complemented by those of social workers and welfare officers employed by voluntary agencies funded by Commonwealth grants administered by the Settlement Branch. In many respects, these voluntary agencies are best placed to assist migrants.

The recommendations of the Galbally Report envisaged a greater emphasis being placed on the role of non-government agencies. The Commonwealth is therefore increasing the number of grants to agencies and will reduce its own direct services as the latter become effective. Its own professional staff, released from this responsibility, will give greater attention to consultancy and community development in support of the agencies.

The Department provides a translation and interpreting service for migrants and for Commonwealth Departments. At the present time translation units are operating in Canberra, Sydney and Melbourne. However in accordance with a recommendation of the Galbally Report, action is being taken to extend this service to other mainland State capitals.

In 1973 a Telephone Interpreter Service (TIS) was introduced to help overcome communication problems by providing over the telephone, in a wide range of languages, a general interpreting, information and referral service for migrants and others having dealings with migrants. Where necessary and especially in emergency situations, arrangements may be made for the personal attendance of an interpreter. TIS currently operates in Canberra, all mainland State capitals and Wollongong and on a limited scale in Darwin, and is to be extended to most major provincial centres of migrant population by June 1981. During the year ended 30 June 1979, a total of 137,332 calls was received by TIS. The aggregate number of calls received since the inception of the Service in 1973 is 551,120.

A National Accreditation Authority for Translators and Interpreters (NAATI) was established in 1977 to develop uniform standards of competence for interpreters and translators as a means to upgrade the standing of the profession and the delivery of language services in Australia. State/Territory panels for Translators and Interpreters are being established in all States and Territories to administer tests to persons seeking accreditation as translators and interpreters at the five levels of competence established by NAATI. Panels have been established in Western Australia and Tasmania.

Also in keeping with the recommendations of the Galbally Report, Settlement Centres are being established in migrant hostels, and progressively, over a three-year period, in the community where there are high concentrations of migrants. These centres will provide on-arrival English instruction and orientation courses and activities concerning various aspects of life in Australia such as employment, housing, education and health and welfare services. They will also provide counselling concerning immediate settlement needs. The new programs will incorporate previously existing programs, including those developed for refugees. These initial, on-arrival programs will be coordinated by new consultative mechanisms, including Migrant Settlement Councils, being established in the States and Territories as recommended in the Galbally Report.

Eighteen migrant resource centres will be established over a period of three years. These resource centres will provide support for all agencies (both government and voluntary) which assist migrants, and also provide a focus for community participation and development of local resources to meet migrant needs.

The Department also prepares information on the ethnic background of migrants, which is used by various organisations and individuals, as a community education service to develop better understanding and appreciation of ethnic communities.

The settlement of refugees from Indo-China has become an important element in the Commonwealth Government's overall migrant settlement program. Most of these refugees are accommodated initially at Commonwealth Government migrant centres where they are able to participate in an initial settlement program designed to facilitate their settlement in the community. In addition, under a program announced by the Minister for Immigration and Ethnic Affairs in October 1979, numbers of refugees will be moved directly from the refugee camps overseas into the Australian community where they would be in the care of families, groups and organisations which had undertaken to provide a range of support and assistance.

VETERANS' AFFAIRS

The Repatriation Commission, established under the *Repatriation Act* 1920, consists of three full-time members. It is responsible for the administration of the Repatriation Act and associated legislation, all matters of policy, and the general administration and overall supervision of the provision of benefits under the legislation. The Chairman of the Commission is also the Secretary of the Department of Veterans' Affairs (formerly the Department of Repatriation), which provides the administrative machinery through which the Commission operates. The central office is in Canberra and there is a branch office, under the control of a Deputy Commissioner, in each State.

The principal functions of the Department are: the payment of disability and dependants' pensions (previously called war pensions) and service pensions and allowances to eligible veterans and their dependants; the provision of medical treatment for veterans for injuries and illnesses caused or aggravated by their service; the provision of medical treatment in certain circumstances for veterans who are suffering from injuries and illnesses not caused or aggravated by service; the provision of medical treatment for widows and dependants of deceased veterans whose deaths are service-related; and a wide range of other benefits for eligible persons. Since 5 October 1976, the *Defence Service Homes Act* 1918 has been administered by the Defence Service Homes Corporation (previously the Australian Housing Corporation) within the departmental framework. At the same time, the Department was given responsibility for the Office of Australian War Graves.

Repatriation benefits are provided in respect of service not only in the 1914–18 and 1939–45 Wars but also in the South African War 1899–1902, in the Korea and Malaya operations, in prescribed areas with the British Commonwealth Far East Strategic Reserve and the Special Overseas Forces and, in certain circumstances, in the Regular Defence Forces.

For information on war service land settlement *see* Year Book No. 61 (Chapter 13, Agricultural Industries) and for statistics relating to defence service homes *see* Chapter 19, Housing and Construction, of this Year Book.

For detailed information about repatriation pensions, allowances, benefits and services, reference should be made to the annual reports of the Repatriation Commission.

REPATRIATION: TOTAL EXPENDITURE(*a*)

('000)

Class	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Pensions, allowances and other benefits	362,196	477,608	568,068	662,876	799,264	860,229
Medical treatment	120,446	162,340	201,488	223,058	251,589	268,583
Administration	24,807	32,143	37,130	39,556	41,999	44,441
Works, rent and maintenance	8,903	14,792	19,332	14,020	17,477	21,301
Total expenditure	**516,352**	**686,883**	**826,018**	**939,510**	**1,110,329**	**1,194,554**

(*a*) Includes expenditure by Departments other than Veterans' Affairs as follows: 1973–74, $8,369,015; 1974–75, $14,088,376; 1975–76, $18,846,000; 1976–77, $13,710,296; 1977–78, $15,718,166; 1978–79, $18,819,531.

Disability and dependants' pensions

The first provision for the payment of disability pensions to veterans and pensions to their dependants was made by the Commonwealth Parliament in the *War Pensions Act* 1914. This Act was repealed in 1920 by the *Australian Soldiers' Repatriation Act* 1920 (amended from 31 December 1950 to the Repatriation Act). Amendments to the Act in 1943 considerably widened the eligibility provisions, to the benefit mainly of members of the Citizen Military Forces who had not served outside Australia during the 1939–45 War.

Main pension rates vary twice each year; current rates are available from Department of Veterans' Affairs Branch Offices.

Summary of disability and dependants' pensions

The following tables provide a summary of disability and dependants' pensions for the 1914–18 War, the 1939–45 War (including pensions payable under the *Interim Forces Benefits Act* 1947), the Korea and Malaya operations and the Far East Strategic Reserve, and Special Overseas Service and the Regular Forces. Statistics relating to miscellaneous disability and dependants' pensions are included collectively in each table, with further details being provided later in this section.

DISABILITY AND DEPENDANTS' PENSIONS: SUMMARY 1978-79

		1914–18 War	*1939–45 War(a)*	*Korea, Malaya and F.E.S.R.*	*Special Overseas Service*	*Peace time forces*	*Miscel-laneous*	*Total*
New claims granted	No.	79	4,711	248	905	1,298	16	7,257
Restorations	"	14	3,073	243	146	101	–	3,577
Claims disallowed(*b*)	"	82	1,651	60	223	579	–	2,595
Pensions cancelled (gross)	"	51	11,211	922	548	273	2	13,007
Deaths of pensioners	"	3,820	7,560	79	22	10	9	11,500
Pensions in force at 30 June 1979(*c*)	"	41,438	372,685	10,669	19,525	3,489	495	448,301
Annual pension liability at 30 June 1979	$'000	75,455	324,638	4,928	4,364	841	632	(*d*)410,858
Amount paid in pensions during the year 1978–79	$'000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	415,329

(*a*) Includes Interim Forces. (*b*) Number of veterans who had their claims for all their disabilities disallowed. (*c*) At 30 June 1979 includes 8,731 student children over 16 years of age. (*d*) This figure excludes an annual liability of $2,956,000 payable to veterans and dependants overseas.

DISABILITY AND DEPENDANTS' PENSIONS(*a*): SUMMARY

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
New claims granted	12,688	11,302	10,417	9,856	8,039	7,257
Restorations	2,356	2,984	3,532	2,607	2,962	3,577
Total additions	*15,044*	*14,286*	*13,949*	*12,463*	*11,001*	*10,834*
Pensions cancelled (gross)	18,164	19,131	17,111	14,449	14,662	13,007
Deaths of pensioners	11,665	12,600	12,323	11,637	11,390	11,500
Total reductions	*29,829*	*31,731*	*29,434*	*26,086*	*26,052*	*24,507*

(*a*) Including miscellaneous pensions.

Classes of disability and dependants' pensions

The following tables provide an analysis of the total number of new claims granted, pensions in force, and class of pension for 1978–79.

DISABILITY AND DEPENDANTS' PENSIONS: NEW CLAIMS GRANTED, 1978-79

Class	*1914–18 War*	*1939–45 War(a)*	*Korea, Malaya and F.E.S.R.*	*Special Overseas Service*	*Peace time forces*	*Miscel-laneous*	*Total*
Veterans	22	1,604	51	142	441	5	2,265
Wives and widows of veterans	42	2,160	84	201	353	6	2,846
Children	7	902	112	559	504	5	2,089
Other dependants	8	45	1	3	–	–	57
Total	**79**	**4,711**	**248**	**905**	**1,298**	**16**	**7,257**

(*a*) Includes Interim Forces.

DISABILITY AND DEPENDANTS' PENSIONS IN FORCE: 30 JUNE 1979

Class	*1914–18 War*	*1939–45 War(a)*	*Korea, Malaya and F.E.S.R.*	*Special Overseas Service*	*Peace time forces*	*Miscel-laneous*	*Total (b)*
Veterans	8,459	162,772	3,952	6,280	1,352	173	182,988
Wives	15,886	150,534	3,198	4,765	869	172	175,424
Children	25	23,790	3,111	8,058	1,187	23	36,194
War widows	16,717	31,631	249	140	55	120	48,912
Children of deceased veterans	8	887	75	197	23	—	1,190
Orphans	4	37	1	2	3	1	48
Other dependants	339	3,034	83	83	—	6	3,545
Total	**41,438**	**372,685**	**10,669**	**19,525**	**3,489**	**495**	**448,301**

(*a*) Includes Interim Forces. (*b*) Includes 8,731 student children over 16 years of age.

DISABILITY PENSIONS FOR INCAPACITATED VETERANS IN FORCE: BY CLASS OF PENSION 30 JUNE 1979

Class	*1914–18 War*	*1939–45 War*	*Korea, Malaya and F.E.S.R.*	*Special Overseas Service*	*Peace time forces*	*Miscel-laneous*	*Total*
Special Rate (T & P I) or equivalent	2,201	13,125	161	57	12	18	15,574
Intermediate Rate	101	1,815	26	10	1	1	1,954
General Rate—from 10 per cent to 100 per cent assessed disability(*a*)	6,157	147,832	3,765	6,213	1,339	154	165,460
Total	**8,459**	**162,772**	**3,952**	**6,280**	**1,352**	**173**	**182,988**

(*a*) Excludes 52 veterans who also receive benefits under items 1–6 of Schedule 5 and are included above under Special Rate or equivalent.

Number of disability and dependants' pensions and annual liability, States, etc.

The following table shows the number of pensions in force and annual liability at 30 June 1979, according to place of payment.

DISABILITY AND DEPENDANTS' PENSIONS: NUMBER OF PENSIONS AND ANNUAL EXPENDITURE

Place of payment	*Number of disability and dependants' pensions in force at 30 June 1979 (a)* *Incapacitated veterans*	*Dependants of incapacitated veterans*	*Dependants of deceased veterans*	*Total*	*Annual pension expenditure at 30 June 1979(b) ($'000)*
New South Wales(*c*)	66,156	74,923	19,853	160,932	155,886
Victoria	45,410	53,683	14,726	113,819	106,374
Queensland	30,692	36,274	7,763	74,729	68,275
South Australia(*d*)	16,993	19,467	4,575	41,035	34,267
Western Australia	15,301	17,815	3,767	36,883	28,183
Tasmania	7,565	8,783	1,870	18,218	18,696
Overseas	871	1,232	582	2,685	3,648
Total	**182,988**	**212,177**	**53,136**	**448,301**	**415,329**

(*a*) Includes Interim Forces 1939-45 War. (*b*) Includes domestic allowance payable to widows. (*c*) Includes Australian Capital Territory. (*d*) Includes Northern Territory.

Summary of disability and dependants' pensions, 1973-74 to 1978-79

The following table shows the number of pensions granted, claims rejected, pensions in force and the annual liability for pensions in each of the years ended 30 June 1974 to 1979.

DISABILITY AND DEPENDANTS' PENSIONS: SUMMARY

Year	*Pensions granted*	*Claims disallowed (b)*	*Number of disability and dependants' pensions in force at 30 June (a)* *Incapacitated veterans*	*Dependants of incapacitated veterans*	*Dependants of deceased veterans*	*Total*	*Annual pension expenditure at 30 June(c) ($'000)*
1973-74	12,688	3,680	207,055	267,136	57,664	531,855	252,177
1974-75	11,302	3,187	202,047	255,537	56,783	514,367	314,716
1975-76	10,417	3,720	197,463	245,682	55,716	498,861	340,839
1976-77	9,856	3,951	193,123	237,237	54,804	485,164	371,459
1977-78	8,039	2,736	187,427	220,968	54,291	462,686	419,033
1978-79	7,257	2,595	182,988	212,177	53,136	448,301	415,329

(*a*) Includes Interim Forces 1939-45 War. (*b*) The number of veterans who had the claims for all their disabilities disallowed. (*c*) Includes domestic allowance payable to widows.

The following table shows, for the years 1973-74 to 1978-79, the amounts paid in pensions and the place of payment.

DISABILITY AND DEPENDANTS' PENSIONS: AMOUNT PAID(*a*)
($'000)

Place of payment	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79*
New South Wales(*b*)	91,874	115,502	128,335	136,198	156,692	155,886
Victoria	67,329	83,673	89,249	97,934	108,827	106,374
Queensland	41,174	50,685	54,622	61,161	68,629	68,275
South Australia(*c*)	20,962	26,525	27,908	30,974	34,870	34,267
Western Australia	17,338	21,812	23,077	25,541	28,728	28,183
Tasmania	11,176	13,698	14,827	16,637	18,676	18,696
Overseas	1,832	2,162	2,068	2,161	2,613	3,648
Total	**251,685**	**314,058**	**340,086**	**370,606**	**419,034**	**415,329**

(*a*) Includes domestic allowances paid to widows. (*b*) Includes Australian Capital Territory. (*c*) Includes Northern Territory.

Miscellaneous disability and dependants' pensions

The Commission is also responsible for the payment of pensions and allowances to beneficiaries under the *Seamen's War Pensions and Allowances Act* 1940, the *Papua New Guinea* (*Members of the Forces Benefits*) *Act* 1957 and Cabinet decisions granting eligibility to persons who were attached to the armed forces during war-time.

The following table shows the number and class of pensions and the annual liability at 30 June 1979, and the table thereafter shows the amounts paid during the years 1973–74 to 1978–79 and the place of payment.

MISCELLANEOUS DISABILITY AND DEPENDANTS' PENSIONS: NUMBER OF PENSIONS AND ANNUAL LIABILITY, 30 JUNE 1979

	Number of pensions in force at 30 June 1979				*Annual pension liability to 30 June 1979 (b) ($'000)*
Class	*Veterans(a)*	*Dependants of veterans*	*Dependants of deceased veterans*	*Total*	
Act of grace	105	122	40	267	296
Seamen's war pension	66	73	46	185	193
New Guinea civilians	2	–	41	43	143
Total	**173**	**195**	**127**	**495**	**632**

(*a*) 'Veterans', in this context, is a person in respect of whose war-time experience a pension is paid. (*b*) Includes domestic allowances payable to widows.

MISCELLANEOUS DISABILITY AND DEPENDANTS' PENSIONS (*a*)
($'000)

Place of payment	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
New South Wales (*b*)	212	286	319	358	432	450
Victoria	130	164	200	223	245	254
Queensland	71	108	118	139	166	158
South Australia (*c*)	47	58	63	69	85	89
Western Australia	25	33	40	45	55	54
Tasmania	6	9	10	17	27	31
Overseas	1	1	1	1	1	1
Total	**492**	**659**	**751**	**852**	**1,011**	**1,037**

(*a*) Includes domestic allowance payable to widows. (*b*) Includes Australian Capital Territory. (*c*) Includes Northern Territory.

Service pensions

The *Repatriation Act* 1920 provides for a service pension to be paid (subject to an income test unless the person is blind) to the following persons:

male veterans who served in a theatre of war (or in a designated *Operational* or *Special Overseas Service* area) and have attained the age of sixty years or are permanently unemployable;

female veterans who served in a theatre of war, or served abroad or embarked for service abroad and have attained the age of fifty-five years, or are permanently unemployable;

veterans of the South African War 1899–1902 who were members of a naval or military force or contingent raised in Australia for active service in that war;

veterans of other British Commonwealth Forces who served outside the country of enlistment or within that country if a campaign medal has been awarded in respect of such service. Ten years residence in Australia is a necessary qualification.

Eligibility is to be extended from 2 February 1980 to veterans who served in formally raised allied forces in conflicts in which Australia has participated, served in a theatre of war and at no time served in enemy forces. Ten years residence in Australia is also necessary.

If otherwise eligible, persons aged 70 years or over receive the service pension free of the income test at the rate of $51.45 per week if single or $42.90 per week each if married. Higher rates of pension may be payable subject to the income test.

Main pension rates vary twice each year; current rates are available from the Department of Veterans' Affairs' Branch Offices.

A veteran in receipt of a service pension is entitled, with certain exceptions, to free medical benefits for disabilities not service-related. These benefits include general practitioner service, specialist service where necessary, full pharmaceutical benefits, surgical aids and appliances (including spectacles), dental treatment, and treatment in Repatriation General Hospitals.

SERVICE PENSIONS, SUMMARY, 1978-79

		1914–18 War	1939–45 War	Korea-Malaya operations	Special Overseas Service	Act of Grace	British Common-wealth	Total
New claims granted	No.	106	33,470	210	25	19	2,777	36,607
Restorations	"	2	285	8	–	–	36	331
Cancellations (gross)	"	325	4,164	39	5	2	1,104	5,639
Deaths	"	2,168	5,544	25	5	3	82	7,827
Pensions in force at 30 June 1979	"	15,955	188,431	944	85	199	6,808	212,422
Annual liability at 30 June 1979	$'000	37,040	402,946	1,916	149	413	13,544	456,008
Amount paid in pensions during 1978–79	$'000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	436,196

SERVICE PENSIONS: SUMMARY

	1973–74	1974–75	1975–76(*a*)	1976–77	1977–78	1978–79
New claims granted	23,229	23,173	29,989	32,404	37,491	36,607
Restorations	641	414	510	378	353	331
Total additions	*23,870*	*23,587*	*30,499*	*32,782*	*37,844*	*36,938*
Cancellations (gross)	5,793	3,940	3,443	3,774	4,345	5,639
Deaths	5,692	6,447	7,131	6,875	7,092	7,827
Total reductions	*11,485*	*10,387*	*10,574*	*10,649*	*11,437*	*13,466*

(*a*) The increased number of new claims granted in 1975–76 was partly due to the abolition of the means test for persons 70 years and over and to an ageing population of ex-service personnel.

Class of service pensions

The following tables give an analysis of the total number of new claims granted and pensions in force for 1978–79.

SERVICE PENSIONS: NEW CLAIMS GRANTED, 30 JUNE 1979

Class	1914–18 War	1939–45 War	Korea-Malaya operations	Special Overseas Service	Act of Grace	British Common-wealth	Total
Veterans	54	18,880	133	16	10	1,628	20,721
Wives and widows of veterans	52	14,590	77	9	9	1,149	15,886
Children	–	–	–	–	–	–	–
Total	**106**	**33,470**	**210**	**25**	**19**	**2,777**	**36,607**

SERVICE PENSIONS: NUMBER IN FORCE, 30 JUNE 1979

State	1914–18 War	1939–45 War	Korea-Malaya operations	Special Overseas Service	Act of Grace	British Common-wealth	Total
New South Wales(*a*)	4,960	62,507	423	32	69	1,615	69,606
Victoria	4,595	46,680	141	5	60	1,701	53,182
Queensland	2,604	35,979	212	31	31	1,155	40,012
South Australia(*b*)	1,720	18,400	63	13	20	1,254	21,470
Western Australia	1,460	16,564	66	2	13	689	18,794
Tasmania	602	8,119	35	2	6	196	8,960
Overseas	14	182	4	–	–	198	398
Total	**15,955**	**188,431**	**944**	**85**	**199**	**6,808**	**212,422**

(*a*) Includes Australian Capital Territory. (*b*) Includes Northern Territory.

Number, by class, of service pensions and amount paid

The following tables show the number of each class of service pension in force, the annual expenditure and the amounts paid for the years 1973–74 to 1978–79.

SERVICE PENSIONS: NUMBER OF EACH CLASS OF PENSION AND ANNUAL EXPENDITURE

Year	*Number of service pensions at 30 June payable to—* Veterans who are— Aged veterans	Veterans who are— Permanently unemployable	Veterans who are— Suffering from pulmonary tuberculosis	Dependants (*a*) of veterans where the veteran is— An aged veteran	Dependants (*a*) of veterans where the veteran is— Permanently unemployable	Dependants (*a*) of veterans where the veteran is— Suffering from pulmonary tuberculosis	Total	Annual pension expenditure at 30 June ($'000)
1973-74	56,119	19,191	1,417	15,532	15,393	853	108,505	103,626
1974-75	62,523	19,298	1,425	22,153	15,438	889	121,726	155,207
1975-76	72,432	20,224	1,424	30,773	15,973	849	141,675	218,926
1976-77	82,567	21,652	1,466	40,104	17,045	881	163,715	283,280
1977-78	95,369	22,253	1,333	51,270	17,532	760	188,517	372,100
1978-79	105,575	24,928	1,289	60,405	19,490	735	212,422	436,196

(*a*) Includes dependants of deceased service pensioners.

SERVICE PENSIONS: AMOUNTS PAID

($'000)

Place of payment	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79*
New South Wales(*a*)	33,105	49,985	73,181	90,577	121,972	143,993
Victoria	26,532	40,180	55,141	72,127	93,631	108,343
Queensland	19,070	28,033	39,181	52,419	68,367	81,852
South Australia(*b*)	10,340	15,133	21,406	28,668	34,234	43,953
Western Australia	10,191	15,149	20,560	26,933	33,785	38,896
Tasmania	4,356	6,669	9,314	12,327	15,806	18,486
Overseas	32	58	143	230	1,306	673
Total	**103,626**	**155,207**	**218,926**	**283,281**	**372,101**	**436,196**

(*a*) Includes Australian Capital Territory. (*b*) Includes Northern Territory.

Medical treatment for veterans and dependants of veterans

Medical treatment is provided for all disabilities which have been accepted as service-related, and for pulmonary tuberculosis and cancer not related to service. In addition, and subject to certain conditions, treatment is provided for most non-service-related disabilities for: incapacitated veterans receiving disability pensions at or above the maximum (100 per cent) General Rate; veterans or nurses who served in the 1914-18 War; veterans of the Boer War; ex-prisoners-of-war; war widows and certain other dependants of deceased male veterans whose deaths have been accepted as service-related, and of deceased T & P I pensioners; and certain service pensioners.

Treatment is provided at six Repatriation General Hospitals (one in each State) and five auxiliary hospitals and an ANZAC hostel in Victoria. The total number of available beds for patients in wards or parts of wards open for use in all these institutions at 30 June 1979 was 3,122 and expenditure during 1978-79 amounted to $123,915,128. In addition, expenditure of $144,667,446 was incurred during 1978-79 on medical services outside these institutions.

Community patients

Where spare bed capacity exists in the Repatriation hospitals, patients may be admitted from the general community (mainly veterans with conditions that are not service-related, hospital staff and the local community).

Repatriation hospitals and institutions

Details of full-time staff in Repatriation general hospitals and other Repatriation institutions are given in the following table.

REPATRIATION HOSPITALS AND INSTITUTIONS: FULL-TIME STAFF 30 JUNE 1979

Type of institution	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
General hospitals—							
Medical staff	215	109	80	51	22	12	489
Nursing staff	917	471	361	276	260	75	2,360
Other staff	1,271	930	584	428	538	133	3,884
Total, general hospitals	*2,403*	*1,510*	*1,025*	*755*	*820*	*220*	*6,733*
Other in-patient institutions	280	148	200	–	52	–	680
Out-patient clinics	(*a*)106	38	–	–	–	–	144
Limb and appliance centres	80	79	31	24	18	12	244
Grand total	**2,869**	**1,775**	**1,256**	**779**	**890**	**232**	**7,801**

(*a*) Out-patient clinics located at Repatriation general hospitals.

The following table gives details of in-patients treated at Repatriation general hospitals and other Repatriation institutions in each State. The figures shown refer to treatment episodes, e.g. a person who is admitted to hospital twice during a year is counted twice.

REPATRIATION GENERAL HOSPITALS AND INSTITUTIONS: IN-PATIENTS TREATED, 1978–79

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
REPATRIATION GENERAL HOSPITALS							
In-patients at beginning of year	687	427	330	213	273	78	2,008
Admissions and re-admissions during year	19,961	12,349	10,087	5,622	7,465	1,741	57,225
Total in-patients treated	*20,648*	*12,776*	*10,417*	*5,835*	*7,738*	*1,819*	*59,233*
Discharges	19,279	11,722	9,709	5,356	7,151	1,647	54,864
Deaths	707	684	368	272	322	104	2,457
In-patients at end of year	662	370	340	207	265	68	1,912
Average daily beds occupied	662	419	325	225	271	75	1,976
OTHER REPATRIATION INSTITUTIONS							
In-patients at beginning of year	195	105	124	–	39	–	463
Admissions and re-admissions during year	2,089	580	1,044	–	229	–	3,942
Total in-patients treated	*2,284*	*685*	*1,168*	–	*268*	–	*4,405*
Discharges	2,012	472	938	–	217	–	3,639
Deaths	105	111	111	–	15	–	342
In-patients at end of year	167	102	119	–	36	–	424
Average daily beds occupied	179	104	113	–	38	–	434

In addition to the repatriation institutions, eligible patients are treated in other country and metropolitan hospitals and nursing homes at repatriation expense. During 1978–79, 28,126 Repatriation in-patients were accommodated and treated in hospitals and 7,288 in nursing homes.

Repatriation psychiatric patients requiring custodial care are, by agreement with the State Governments, accommodated at the expense of the Department of Veterans' Affairs in separate wings of psychiatric hospitals administered by the State authorities. Excluding 73 on trial leave, there were 540 repatriation patients in these hospitals at 30 June 1979.

Out-patient treatment is provided throughout Australia at repatriation hospitals and clinics and through the Repatriation Local Medical Officer Scheme. During 1978–79, 761,062 out-patients were treated at Repatriation institutions, and visits to or by local medical officers totalled 2,568,406. The number of Repatriation local medical officers in Australia at 30 June 1979 was 8,652.

Artificial limb and appliance services

A wide range of artificial limbs and other surgical aids is supplied by the artificial limb and appliance centre in each State capital and Darwin. In addition, the Department maintains the Central Development Unit located in Melbourne, and engages in research and development in the prosthetic and orthotic field.

Since 1973, artificial limbs have been provided free of charge to all members of the community who need them, either through the Department's artificial limb and appliance centres or on order through commercial limb-makers. The number of limbs supplied through the Department has increased significantly as the community has taken advantage of the free-limbs scheme.

Details of production at all centres during 1978–79 are as follows: arms, 273; legs, 2,996; surgical and adapted footwear, 5,947; other surgical appliances, 1,232; and repairs, 27,218.

General Repatriation benefits and miscellaneous

Other activities of Department of Veterans' Affairs

In addition to the payment of pensions and the provision of medical treatment, the Department also provides various benefits and allowances designed to meet the needs of special classes of veterans and their dependants. These include the Soldiers' Children Education Scheme (*see* page 221).

In addition, gift cars and an annual allowance for their upkeep are provided for veterans who, as a result of service, have suffered the amputation of both legs above the knees or amputation of one leg above the knee plus any two other amputations (above the ankle or at or above the wrist) or complete paraplegia resulting in the total loss of the use of both legs. A grant of up to $100 may be made towards the funeral expenses of eligible veterans and certain of their dependants. Payment of up to $10 may be made to provide such necessities as meals, sleeping accommodation, etc. for veterans in need of immediate relief. Also, certain concessions in telephone rental charges are provided for some classes of veterans and their dependants, including blinded veterans, war and defence widows and certain service and Special Rate disability pensioners. Veterans who have been blinded as a result of service may be issued with talking book machines. The Australian Red Cross Society supplies 'book' records or cassettes for these machines free of charge, thus enabling the blinded to enjoy a wide range of literature.

Expenditure in 1978–79 on general Repatriation benefits for all wars was $8,704,000 comprising Soldiers' Children Education Scheme, $2,941,000; recreation transport allowance, $800,000; and other benefits, $4,963,000.

As at 30 June 1979, trust and other funds administered by the Department of Veterans' Affairs held $22,612,000 in securities (face value) and $1,455,971 in cash, a total of $24,067,971.

Reciprocal arrangements with the United Kingdom, New Zealand and other countries provide for the payment of pensions, etc. to eligible Australian veterans living overseas and to eligible veterans from overseas who are living in Australia.

Soldiers' Children Education Scheme

The Soldiers' Children Education Scheme was established in 1921 and operates with the assistance of the honorary Education Boards in each State. These Boards consist of representatives of government and non-government education authorities and of ex-service and other organisations which have a general interest in the welfare of the children of veterans. The objects of the Scheme are to assist and encourage eligible children in acquiring a standard of education compatible with their aptitude and ability, and to prepare them to enter an agricultural, commercial, professional, or industrial calling of their own choice. Eligible children are children of veterans whose deaths have been accepted as service-related; or of veterans who died from causes not service-related but who were receiving at the date of death a disability pension at a Special Rate for blindness, total and permanent incapacity, or amputation of two or more limbs; or of veterans who, as a result of service, are blinded totally and permanently incapacitated. From the commencement of primary education until the child reaches twelve years of age, school requisites and fares are provided. From the commencement of secondary education or from the age of twelve years, whichever is earlier, an education allowance is payable while the child is undertaking primary or secondary education. Assistance beyond secondary education is provided where an approved beneficiary continues with a course of specialised education or training necessary for a career. At this stage of training, in addition to the education allowance, fees are paid and text books, essential equipment and other minor benefits are provided.

All education allowances are subject to an income test, i.e. the amount of education allowance payable depends on the amount of income a child receives over the allowed limit. Weekly rates of allowances vary from time to time; current rates are available from the Department of Veterans' Affairs' Branch Offices.

The following tables show the costs of education under the scheme for the year ended 30 June 1979, and the number of children in receipt of benefit at 30 June 1979.

SOLDIERS' CHILDREN EDUCATION SCHEME: EXPENDITURE, 1978-79

($'000)

	N.S.W.(a)	*Vic.*	*Qld*	*S.A.(b)*	*W.A.*	*Tas.*	*Aust.*
Cost of education of beneficiaries—							
Under 12 years of age	2	2	3	1	—	1	9
12 years of age and over	1,175	775	454	219	178	98	2,899
Total expenditure	**1,177**	**777**	**457**	**220**	**178**	**(c)99**	**2,908**

(*a*) Includes Australian Capital Territory. (*b*) Includes Northern Territory. (*c*) Excludes overseas expenditure of $33,000.

SOLDIERS' CHILDREN EDUCATION SCHEME: NUMBER RECEIVING BENEFITS(*a*) AT 30 JUNE 1979

Type of training	*N.S.W.(b)*	*Vic.*	*Qld*	*S.A.(c)*	*W.A.*	*Tas.*	*Overseas*	*Total*
At school—								
Aged under 14 years (*d*)	182	114	96	31	29	31	6	489
Aged 14 and under 16 years	294	167	151	64	39	51	5	771
Aged 16 and under 18 years	280	160	92	44	24	33	4	637
Total at school	*756*	*441*	*339*	*139*	*92*	*115*	*15*	*1,897*
Professional	337	237	138	61	70	21	8	872
Agricultural	–	–	–	–	–	–	–	–
Industrial	–	–	–	–	–	–	1	1
Grand total	**1,093**	**678**	**477**	**200**	**162**	**136**	**24**	**2,770**

(*a*) Refers only to children in receipt of an education allowance. (*b*) Includes Australian Capital Territory. (*c*) Includes Northern Territory. (*d*) From 12 years of age or the commencement of secondary education, whichever is the earlier.

Settlement of returned service personnel on the land

Reference to the settlement of returned service personnel on the land will be found in Chapter 13, Agricultural Industries.

Re-establishment benefits for former regular and former national servicemen

Subject to prescribed conditions, vocational training and business loans are provided for former regular and former national servicemen with a view to ensuring that they are not at a disadvantage when they return to civil life. Loans from $5,000 (business and professional) and $10,000 (agricultural) may be granted to veterans in these categories who satisfy prescribed requirements in respect of suitability of their proposed business propositions and adequacy of security. Agricultural loans are administered by the Department of Primary Industry. Vocational training is provided for by the Department of Employment and Youth Affairs.

Survey of Ex-service personnel, widows and children

In November 1971, a survey based on the quarterly population survey (*see* Chapter 8, Manpower) was conducted at the request of the then Department of Repatriation and the Services Canteen Trust Fund. Details of the survey were published in Year Book No. 59, page 112 and in the publication *Ex-service Personnel, Widows and Children* (November 1971) (4403.0). A similar survey was conducted in October 1979, and included questions relevant to the Defence Service Homes function. Results are expected to be published about January 1980.

The Services Canteens Trust Fund

The Services Canteens Trust Fund was established under the *Services Trust Funds Act* 1947. Its funds are derived from the assets and profits of wartime services canteens, mess and regimental funds of disbanded units, and several other sources.

The total amount transferred to the Fund to 31 December 1978 was $11,060,103. The Act prescribed that of this, $5 million and such further amounts as the trustees of the Fund might from time to time decide should be devoted to the provision of education facilities for the children of eligible veterans, and that the balance of the Fund should be used to provide relief for veterans and their dependants in necessitous circumstances.

The Fund is administered by seven honorary trustees appointed by the Governor-General. The trustees have power to determine the persons or groups of persons to benefit from the Fund and the extent of the benefits to be granted within the provisions of the Act, and to appoint regional committees to assist with the administration. Members of regional committees are all persons who served in the 1939–45 War or are widows of men who served during the war. The trustees and members of regional committees serve in an honorary capacity.

Assistance from the Fund

Persons eligible for assistance from the Fund are those who, between 3 September 1939 and 30 June 1947, served in the Australian Naval, Military or Air Forces, including members of the canteens staff of any ship of the Royal Australian Navy, persons duly accredited to any part of the Defence Forces who served in an official capacity on full-time paid duty, and their dependants.

The trustees have introduced various schemes for providing financial assistance to needy eligible veterans and their dependants. The total cash assistance granted to individuals under all schemes from the inception of the Fund to 31 December 1979 was $15,322,482 ($474,432 during 1978) distributed as follows:

- welfare relief, $4,932,403 ($235,432 during 1978)
- children's education, $10,005,946 ($237,640 during 1978)
- other schemes, $384,133 ($1,360 during 1978)

For detailed information on the operation of the Fund, reference should be made to the annual reports of the Services Canteens Trust Fund.

Further information—ABS publications

Further information on subjects dealt with in this chapter is included in the annual *Australian National Accounts, National Income and Expenditure* (5204.0); *Commonwealth Government Finance, Australia* (5502.0); *State and Local Government Finance, Australia* (5504.0); and *Social Indicators* (4101.0). Current and summarised information on Commonwealth Government social services is contained in the *Monthly Summary of Statistics, Australia* (1304.0).

CHAPTER 10

HEALTH

CHAPTER 10

HEALTH

This chapter is concerned with activities of the Commonwealth Department of Health including quarantine, national health benefits programs and Federal grants for health purposes; activities of the State Health Departments; statistics of hansenide hospitals and mental health institutions; and statistics of notifiable diseases, causes of death, and cremations.

Further information about the administration of public health services is contained in the annual reports of the Director-General of Health; the annual reports of the State health authorities; and in the Year Books and annual publications published by the State offices of the Australian Bureau of Statistics.

NATIONAL HEALTH SERVICES

Prior to an amendment to the Constitution in 1946, the only health function of the Commonwealth Department of Health was in relation to quarantine. Consequent upon this amendment, the Commonwealth Government was given powers to make laws about pharmaceutical, hospital and sickness benefits and medical and dental services. The Commonwealth Government also has used its powers under section 96 of the Constitution to make grants to the States for health purposes. In addition, the Commonwealth Government gives financial assistance to certain organisations concerned with public health matters. A number of Commonwealth Government health organisations have been established; detailed information on the functions and operations of these organisations is given in this and previous Year Books and in the annual reports of the Commonwealth Director-General of Health.

Quarantine

The *Quarantine Act* 1908 is administered by the Commonwealth Department of Health and provides for the taking of measures to prevent the introduction or spread of diseases affecting humans, animals and plants.

Human quarantine

The masters of all ships and aircraft arriving in Australia from overseas are required to notify medical officers acting on behalf of the Commonwealth Department of Health of all cases of illness on board their vessel at the time of arrival. Passengers or crew members who are believed to be suffering from a quarantine illness may be examined by Quarantine Medical Officers located at all ports of entry.

The main concern of examining officers is the detection of quarantine diseases including smallpox, cholera, yellow fever, plague, typhus fever and viral haemorrhagic fevers. These diseases are not endemic to Australia and it is of great importance to prevent their entry. Sufferers or suspected sufferers may be isolated to prevent the possible spread of the disease.

Valid International Certificates of Vaccination are required of travellers to Australia as follows:

Smallpox. From travellers over the age of 12 months who, within the last 14 days, have been in a country of which any part is infected with smallpox.

Yellow fever. From travellers who have been in yellow fever endemic zones within the past 6 days.

All passengers, whether they arrive by sea or air, are required to give their intended place of residence in Australia so that they may be traced if a case of disease occurs among the passengers on the ship or aircraft by which they travelled to Australia.

Isolation. Under the Quarantine Act, airline and shipping operators are responsible for the expenses of isolation of all travellers who disembark from their aircrafts or ships and who fail to meet Australia's vaccination requirements.

Animal quarantine

Policy decisions are developed by the Department and, in general, are executed by State officers acting as agents for the Commonwealth.

Movement of animals between New Zealand and Australia is relatively unrestricted but importation of cattle, horses, dogs, cats, zoo and laboratory animals may be permitted from a certain few other countries only if strict health conditions are met.

Animal quarantine stations are located at Brisbane, Sydney, Melbourne, Adelaide, and Perth. A maximum security animal quarantine station is being constructed at the Cocos Islands and, when completed, will permit the safe importation of a wider range of animals than is currently possible. Other major works are underway to increase the capacity of mainland animal quarantine stations. Northern surveillance for the possible illegal introduction of quarantinable products has been enhanced considerably by the adoption of daily searches by air and increased surface searches by ship.

Plant quarantine

Arising from both its dependence upon exotic plant species for agriculture, horticulture and forestry and its island continental isolation, Australia is free of numerous plant pests and diseases that occur elsewhere in the world. Since 1 July 1909, the importation into Australia of plant materials has been subject to an increasingly stringent quarantine; some materials are admitted only under certain conditions while others are prohibited altogether. The quarantines are designed to exclude from the country unwanted pests and plant diseases. It is not possible to predict how a new plant pest or disease will perform when introduced to a new environment free of its natural enemies. Hence the general objective is to keep any pest or disease out of the country which could cause serious economic losses to Australia's agriculture, horticulture or forests.

For further details *see* Year Book No. 61, page 449.

Personal health services and subsidies

National Health Benefits

On 24 May 1979, the Minister for Health announced major changes in health insurance arrangements to come into effect on 1 September 1979.

With these changes universal protection against higher-cost items of medical service is guaranteed and standard hospital accommodation in recognised hospitals is continued. Coverage for pensioners with Pharmaceutical Benefit (PHB) cards and disadvantaged persons remains unchanged, whilst individuals are free to choose additional coverage from private insurers, as before.

Medical

The Commonwealth no longer meets 40 percent of doctors' Schedule fees for lower-cost medical items. Patients are responsible for medical costs up to $20 per Schedule service, and the Commonwealth meets the costs above $20 up to the level of the Schedule fee.

Pensioners with PHB cards continue to be eligible to receive a benefit of 85 per cent of the Schedule fee for each medical service, with a maximum payment by the patient of $5 for any one service where the Schedule fee is charged.

People classified by their doctors as disadvantaged continue to be eligible to have their medical accounts bulk-billed (at 75 per cent of the Schedule fee).

Hospital

Free standard ward accommodation in recognised hospitals with treatment by doctors engaged by the hospital remains available under Hospital Cost Sharing Agreements to all residents of Australia who do not have hospital insurance.

Private Insurance

From 1 September 1979, all funds are required to maintain a basic medical benefits table—that is, 75 per cent of the Schedule fee, with a maximum payment by the patient of $10 for each service where the Schedule fee is charged.

Without the previous 40 per cent Commonwealth medical benefit, funds are now required to meet the full benefit levels for the first $20 of each medical service. Contribution rates have increased accordingly. The Commonwealth Government meets all costs over $20 for each medical service up to the limit of the Schedule fee. The funds still pay Commonwealth medical benefits on behalf of the Commonwealth Government for both insured and uninsured persons.

From 1 September 1979, inpatient charges in recognised hospitals increased from the previous levels of $40 a day (shared room) and $60 a day (private room) to $50 and $75 a day respectively, and from $20 to $25 per day for insured patients who choose to utilise the services of hospital doctors.

As a result of the changes, hospital contribution rates and benefits payable increased.

The scope of other medical and hospital tables offered by the registered health insurance organisations remains the same.

Financing

The Commonwealth Government pays medical benefits for items above $20 Schedule fee from consolidated revenue. Each person is responsible for the first $20 of any medical service, unless privately insured.

Hospital cost-sharing arrangements between the States and the Commonwealth continue as previously. Most of the current agreements are due to be re-negotiated in mid 1980 but will be extended during the Commission of Inquiry into the Efficiency and Administration of Hospitals. This national inquiry has been established to identify the factors behind existing rates of growth in public hospital expenditures and ways in which those growth rates might be reduced.

The subsidy of $16 per occupied bed day paid to private hospitals and the reinsurance arrangements remain.

Administration

The Department of Health continues to be responsible for administering the Commonwealth medical benefit payments to the registered medical benefits organisations, bulk-billing arrangements, hospital payments and subsidies, nursing home benefits for persons without hospital insurance and health program grants.

Nursing Home Benefits

There are two forms of Commonwealth benefit payable in respect of patients accommodated in premises approved as nursing homes under the National Health Act. These benefits are as follows:

(i) *Basic Nursing Home Benefit*

Basic nursing home benefit is payable in respect of all qualified nursing home patients other than those patients who are eligible to receive benefits from a registered hospital benefits organisation or from some other source such as compensation, third party insurance, etc. The amount of basic benefit payable varies between States on the basis of an amount which, when combined with the minimum patient contribution (as explained below) will fully cover the costs of 70 per cent of patients in non-Government nursing homes in each State. The benefit is reviewed and adjusted annually on this basis, the last such adjustment taking effect on 8 November 1979.

As at 8 November 1979, the maximum amount of basic nursing home benefit payable per day, in each State was: New South Wales $15.30; Victoria $22.70; Queensland $13.85; South Australia $20.55; Western Australia $13.85; and Tasmania $15.85.

(ii) *Commonwealth Extensive Care Benefit*

The Commonwealth extensive care benefit is payable at the rate of $6 a day, in addition to the Commonwealth basic benefit, in respect of patients who need and receive 'extensive care' as defined in the National Health Act. As in the case of the Commonwealth basic benefit, the extensive care benefit is payable in respect only of qualified patients who are not entitled to receive such benefits from a registered hospital benefits organisation, workers' compensation or third party insurance.

Patients who are insured with a registered hospital benefits organisation receive all of their benefit entitlement, whether at the basic benefit or extensive care benefit levels, from that organisation and not from the Commonwealth. In all circumstances the amount of benefit payable by a hospital benefits organisation will be equivalent to the amount otherwise payable by the Commonwealth in respect of uninsured patients in nursing homes.

Generally speaking all nursing home patients are required to make a minimum contribution towards the approved nursing home fee charged (while an exception to this rule is provided for, that exception relates basically to certain circumstances involving handicapped children in nursing homes).

As at 8 November 1979, the minimum patient contribution payable by patients accommodated in nursing homes approved under the National Health Act was $7.85 a day.

Where the fees charged by a nursing home are in excess of the combined total of nursing home benefits plus the patient contribution, the difference must be met by the patient. Conversely, where the nursing home fee is less than this combined total, the basic benefit (whether private health insurance benefit or Government benefit) is reduced by that amount.

Long-term Patients

Amendments to the Health Insurance Act and the National Health Act were made in June 1979 concerning long-term patients in hospitals. Long-term patients accommodated in hospitals who no longer require hospital treatment are to be reclassified as nursing home type patients and required to contribute towards their care and accommodation in the same way as patients in nursing homes. A 'nursing home type patient' is an inpatient whose hospitalisation exceeds 60 days, unless a certificate has been issued by a medical practitioner to certify that a patient is in need of acute care.

Deficit Financing Arrangements

As an alternative to the provision of patient benefits under the National Health Act (as outlined above), the *Nursing Homes Assistance Act* 1974 provides for an arrangement whereby the Commonwealth Government may meet the net operating deficits of religious and charitable nursing homes.

All organisations wishing to participate in the deficit financing arrangements must enter into a formal agreement with the Commonwealth Government for that purpose.

Commonwealth nursing home benefits as provided under the National Health Act are not payable to a nursing home during any period in respect of which that nursing home participates under the deficit financing arrangements and uninsured patients are charged only a prescribed fee equivalent to the minimum patient contribution. However, the usual arrangements, as for nursing homes approved under the National Health Act, apply to insured patients and registered hospital benefits organisations pay the full normal benefit rate.

Domiciliary Nursing Care Benefit

A domiciliary nursing care benefit is payable at the rate of $14 a week ($2 daily) to persons who are willing and able to care, in their own homes, for relatives who would otherwise qualify for nursing home benefits. The basic criteria for the payment of the benefit are that the patient must be aged sixteen years or over and be in need of continuing nursing care and receiving regular visits by a registered nurse. The reduction in the age criteria from 65 years to 16 years took effect from 1 November 1979.

This benefit is not subject to a means test and is payable, under the National Health Act, in addition to any entitlements that persons may have under the Social Services Act or the Repatriation Act for pensions or other supplementary allowances.

Health Program Grants

Health Program Grants, authorised under the *Health Insurance Act* 1973, are payable to eligible organisations to meet the cost, or such proportion of the cost as the Minister may determine, of approved health services, provided outside of hospitals by medical practitioners employed on a salaried or sessional basis. Eligible organisations impose charges, where appropriate, for services involving privately insured patients. The grant covers the cost of scheduled medical services provided to patients in respect of whom a doctor in private practice would bulk-bill, i.e. Pensioner Health Benefits cardholders and their dependants, and uninsured patients classified by the doctor as disadvantaged.

Health Program Grants are also available for research projects that develop and test new forms of health care delivery systems (e.g. Health Maintenance Organisations). The total amount paid to approved organisations during 1978–79 was $4.1 million.

Federal Authorities Expenditure

Pharmaceutical benefits

A person receiving treatment from a medical practitioner or a participating dental practitioner registered in Australia is eligible for benefits on a comprehensive range of drugs and medicines when they are supplied by an approved pharmacist upon presentation of a prescription or by an approved private hospital when that person is receiving treatment at the hospital. Special arrangements exist to cover prescriptions dispensed at locations outside the normal conditions of supply, e.g. in remote areas.

Following the introduction of the Commonwealth/State cost sharing arrangements, patients in recognised hospitals are supplied with drugs and medical preparations in accordance with those agreements.

Patients other than eligible pensioners and their dependants now pay a contribution of $2.75 for each benefit prescribed. The total cost of prescriptions for eligible pensioners and their dependants is met by the Commonwealth Government.

Under the Pharmaceutical Benefit Scheme the total cost, including patient contributions, for prescription drugs was $361.2 million in 1977–78 and $391.1 million in 1978–79. These figures do not include benefits supplied by certain hospitals and miscellaneous services or retrospective adjustments of chemists' remunerations.

Summary of cash benefits to persons

For an analysis by function and economic type of expenditure by all Commonwealth Government authorities *see* Chapter 22, Public Finance.

Most Commonwealth Government health benefits are financed through the National Welfare Fund and the Health Insurance Commission. The following table shows cash benefits to persons by Federal Authorities for 1977–78.

FEDERAL AUTHORITIES: HEALTH CASH BENEFITS TO PERSONS 1977-78

($'000)

	N.S.W. (a)	*Vic.*	*Qld*	*S.A. (a)*	*W.A.*	*Tas.*	*N.T. (a)*	*A.C.T. (a)*	*Total*
Hospital and clinical services—									
Hospital benefits reinsurance	23,994	19,038	5,777	9,164	1,288	217	–	–	59,478
Medibank—Private hospital daily bed payments	21,120	20,356	13,123	7,229	5,883	1,854	–	–	69,565
Hospital benefits, n.e.c.	1,167	817	677	75	19	194	–	–	2,949
Nursing home benefits	100,590	55,884	34,951	28,921	24,384	8,954	–	–	253,684
Tuberculosis campaign allowances	361	251	196	98	107	43	–	–	1,057
Rehabilitation of ex-servicemen	106	145	50	27	34	16	–	15	392
Total	*147,338*	*96,491*	*54,774*	*45,514*	*31,715*	*11,278*	–	*15*	*387,125*
Other health services—									
Medibank—Medical benefits	158,798	85,206	53,533	27,500	21,168	6,172	997	5,934	359,308
Medical benefits, n.e.c.	74	103	7	–33	19	10	–	–	180
Pharmaceutical benefits for pensioners	54,354	30,075	19,912	10,872	8,469	3,623	50	556	127,912
Pharmaceutical benefits, n.e.c.	50,837	34,184	18,699	10,289	8,854	3,137	323	1,811	128,136
Domiciliary care	2,383	1,794	1,509	869	877	497	–	–	7,929
Total	*266,446*	*151,362*	*93,660*	*49,497*	*39,387*	*13,439*	*1,370*	*8,301*	*623,465*
Total health	**413,784**	**247,853**	**148,434**	**95,011**	**71,102**	**24,717**	**1,370**	**8,316**	**1,010,590**

(*a*) State totals for New South Wales and South Australia also include most of the unallocatable expenditure on cash benefits to persons resident in the Australian Capital Territory and the Northern Territory respectively.

Tuberculosis

An arrangement between the Commonwealth and the States under which the Commonwealth reimbursed the States for all approved capital expenditure on tuberculosis and for net maintenance expenditure to the extent that it exceeded that for 1947–48 was discontinued from 31 December 1976. The National Tuberculosis Advisory Council, however, has been retained to keep abreast of advances and to advise the Minister for Health and, through him, the State Ministers for Health on the best means of prevention, diagnosis and control of tuberculosis. There are eleven members of the Council, the chairman being the Director-General of the Commonwealth Department of Health.

To reduce the spread of infection the Commonwealth Government pays allowances to persons suffering from infectious tuberculosis so that they may give up work and undergo treatment. Commonwealth Government Expenditure on Tuberculosis Allowances over the last three years has been $861,000 in 1976–77; $762,000 in 1977–78 and $746,000 in1978–79.

Immunisation campaigns

Continuing immunisation programs against poliomyelitis, measles, rubella, diphtheria, tetanus, and whooping cough are maintained in all States and Territories.

Rubella immunisation is limited to females during their reproductive years; mass campaigns are routinely undertaken only on girls aged between 10 and 14 years. Whooping cough immunisation is currently given only to infants less than 1 year of age.

National health services organisations

The *Commonwealth Department of Health Pathology Laboratory Services* provides diagnostic and investigational facilities at laboratories situated in Albury, Bendigo, Cairns, Hobart, Kalgoorlie, Launceston, Lismore, Port Pirie, Rockhampton, Tamworth, Toowoomba and Townsville. Their primary role is to assist medical practitioners in the diagnosis of illness and disease and to provide facilities for investigations into public health and aspects of preventive medicine. During 1978–79, these laboratories carried out approximately 3.8 million pathology tests and investigations in respect of 1.0 million patient requests.

The *Commonwealth Serum Laboratories* (CSL) are both Australia's leading centre for the production and supply of biological products for human and veterinary use, and one of Australia's foremost scientific institutes. Their main functions are to produce and sell prescribed biological products used for therapeutic purposes and to ensure the supply of prescribed essential biological products in accordance with national health needs. The functions include biological research and development relating to many kinds of human and veterinary diseases covering the fields of bacteriology, biochemistry, immunology and virology. The laboratories and central administration are located at Parkville, Victoria, with storage and distribution facilities in all States.

For over sixty years, CSL has been Australia's chief supplier of biological medicines, insulins, vaccines, penicillins, human blood fractions, Bacille Calmette Guérin (BCG) and an increasing range of veterinary biological products needed by Australia's sheep, cattle, pig and poultry industries. It is also well known and respected overseas, and export income forms a significant part of total revenue.

The Laboratories employ more than 1,000 people, including medical officers, veterinarians, bacteriologists, biochemists, physicists, engineers, accountants, laboratory assistants, skilled tradesmen and experienced marketing staff to promote the sale of its products.

The *Australian Radiation Laboratory* is concerned with:

(*a*) The formulation of policy, development of codes of practice, national surveillance and provision of scientific services relating to the public and occupational health implications of ionising and non-ionising radiation; and

(*b*) The maintenance of national radiation measurement standards and quality evaluation and assurance of radioactive materials used for medicine diagnosis and treatment.

The *National Acoustic Laboratories* undertake scientific investigations into hearing and problems associated with noise as it affects individuals, and advise Commonwealth Government Departments and instrumentalities on hearing conservation and the reduction of noise. A free audiological service is provided for pensioners with medical benefit entitlements and their dependants, persons under 21, war widows, Social Security rehabilitees and Veterans Affairs patients. During 1978–79 the number of new cases examined was 45,631 and the number of hearing aids fitted was 33,866.

The *Ultrasonic Institute* conducts research and provides advisory services on the use of ultrasonic radiation in the diagnosis and treatment of disease. The Institute is recognised as a world leader in its field.

Commonwealth Government health advisory organisations

The *National Health and Medical Research Council* advises the Commonwealth Government and State Governments on all matters of public health legislation and administration, on matters concerning the health of the public and on medical research. It also advises the Commonwealth Government and State Governments on the merits of reputed cures or methods of treatment which are from time to time brought forward for recognition. The Council advises the Commonwealth Minister for Health on the application of funds from the Medical Research Endowment Fund which provides assistance to Commonwealth Government Departments, State Departments, Universities, Institutions and persons for the purposes of medical research and for the training of persons in medical research. The Commonwealth Government makes annual appropriations to the fund on the basis of a three year rolling program. The allocation for 1979–80 is $14.0 million. The secretariat for the Council and its Committees is provided by the Commonwealth Department of Health and is located in Canberra.

The *School of Public Health and Tropical Medicine* located at the University of Sydney provides Teaching, Research and Consultation in areas relating to Public Health, Preventive and Social Medicine, Occupational and Environmental Health and Tropical Medicine. The academic functions of the School are under the direction of the University, whilst its various training, consultative and professional services are maintained by the Commonwealth Department of Health.

The School offers undergraduate and postgraduate training in a wide range of Public Health specialities and has recently introduced a Master of Public Health degree.

The School is currently being developed into a Commonwealth Institute of Health and has begun to take on an important new consultative role as a resource centre for the nation, on all matters relating to Public Health for the benefit of Government, Industry and private individuals.

Costs for the School paid by the Commonwealth Government during 1978–79 were $2,130,375 for administration and $123,816 for plant and equipment.

The *Institute of Child Health* is associated with the School of Public Health and Tropical Medicine at the University of Sydney and with the Royal Alexandra Hospital for Children at Camperdown. Its activities include research into medical and social problems of childhood, undergraduate and postgraduate teaching at the University of Sydney, collaboration with other national and international organisations concerned with child health and disease, and the training of United Nations Colombo Plan Fellows. Costs of the Institute paid by the Commonwealth Government during 1978–79 were $554,866 for administration and $44,250 for plant and equipment.

The *Australian Dental Standard Laboratory* is concerned with the quality, standards, and research related to dental and other biomedical materials. The number of samples tested in 1977–78 was 135.

The *National Biological Standards Laboratory* is responsible for the development of standards for therapeutic goods and for testing such products for compliance with standards to ensure that they are safe, pure, potent and efficacious. Other responsibilities, including the inspection of manufacturing premises, the evaluation of new and modified products and the investigation of complaints, make it the linchpin of a uniform national system of control over therapeutic goods.

The British Pharmacopoeia, the British Pharmaceutical Codex and the British Veterinary Codex are specified as primary standards. In addition, the Minister has powers to make orders setting standards for specific types of goods and general classes of goods which are imported, or the subject of interstate trade, or supplied to the Commonwealth Government. Standards developed by the National Biological Standards Laboratory are submitted to a statutory committee, the Therapeutic Goods Standards Committee, which advises the Minister on their suitability.

The Laboratory, jointly with State officials and the pharmaceutical industry, prepares and revises an Australian Code of Good Manufacturing Practice which is the criterion employed by inspectors for the licensing of pharmaceutical manufacturers.

The Laboratory has sections which deal with viral products, bacterial products, pharmaceutical products, antibiotics and pharmacology. Administrative costs for 1978–79 were $3,014,726 and a further $156,310 was expended on plant and equipment.

The *Australian Drug Evaluation Committee* makes medical and scientific evaluations both of such goods for therapeutic use as the Minister for Health refers to it for evaluation and of other goods for therapeutic use which, in the opinion of the Committee, should be so evaluated, and advises the Minister for Health as it considers necessary relating to the importation into and the distribution within Australia of goods for therapeutic use that have been the subject of evaluation by the Committee. It has the powers to co-opt and seek advice from specialist medical colleges and associations and from the medical and allied professions, drug manufacturers and other sources. During 1978–79 seventy-three applications for approval to market new drugs and twenty-three applications to extend the indications or amend dosage regimes for currently marketed drugs were considered by the Committee. Sixty-two applications were approved, twenty-nine rejected and five deferred pending production of further information on safety and efficacy. Under the Committee's control are the Australian Registry of Adverse Reactions to Drugs, which provides an early warning system based on reports of reactions to drugs forwarded voluntarily by medical practitioners, pharmacists, hospitals, etc; the Adverse Drug Reaction Advisory Committee, which gives initial consideration to the adverse drug reaction reports received by the Registry and arranges feedback to the medical profession; the Vaccines Sub-Committee; the Endocrinology Sub-Committee; the Congenital Abnormalities Sub-Committee; the Parenteral Nutrition Sub-Committee; the Anti-Cancer Drugs Sub-Committee; the Radiopharmaceuticals Sub-Committee; and the National Drug Information Advisory Sub-Committee, formed to oversight administrative aspects of the technical input to the National Drug Information Service.

The *Therapeutic Goods Advisory Committee* considers, and advises the Minister for Health on, any matters relating to standards applicable to goods for therapeutic use and the administration of the Therapeutic Goods Act. The *Therapeutic Goods Standards Committee,* under the same Act, advises the Minister for Health on standards applicable to goods for therapeutic use and requirements relating to the labelling and packaging of any such goods.

The *National Therapeutic Goods Committee* comprises Federal and State representatives. Its function is to make recommendations to the Commonwealth and State Governments on action necessary to bring about co-ordination of legislation and administrative controls on therapeutic goods. Sub-committees have been formed to consider specific matters, notably advertising, establishment of a National Product Register, a Code of Good Manufacturing Practice, and standards for disinfectants.

The *Hospital and Allied Services Advisory Committee* was established by the 1970 Australian Health Ministers Conference to provide advice on the co-ordination of matters connected with hospitals and allied services. The Council consists of representatives of each State Health Department or

Commission, the Commonwealth Departments of Health and Veterans' Affairs, the Northern Territory Department of Health, the Capital Territory Health Commission and Dr S. Sax from the Social Welfare Policy Secretariat. The Council is assisted in carrying out its work by several committees, sub-committees and working parties.

In 1978, the Social Welfare Policy Secretariat was established, having responsibility ranging over the whole field of health and welfare. The Hospital and Health Services Commission was consequently wound-up; a number of its ongoing activities were absorbed by the Policy Secretariat, while others were transferred to the Department of Health.

Other Commonwealth Government subsidies and grants to States

Home nursing subsidy scheme

The *Home Nursing Subsidy Scheme* provides for an annual Commonwealth subsidy to approved home nursing services. Organisations eligible for the subsidy are those which are non-profit making, employ registered nurses, and receive assistance from a State Government or from local government bodies. During 1978–79 subsidies totalling $11.2m were paid to 193 organisations providing home nursing services in the States. Home nursing services in the Northern Territory were provided by the Commonwealth Department of Health until 1 January 1979, when responsibility was transferred to the Northern Territory Government. In the Australian Capital Territory, these services have been provided by the Capital Territory Health Commission.

Paramedical services

The *States Grants* (*Paramedical Services*) *Act* 1969 provides for the Commonwealth Government to share on $1 for $1 basis with participating States the cost of approved paramedical services such as chiropody, occupational therapy, physiotherapy and speech therapy provided wholly or mainly for aged persons in their homes. Matching grant payments during 1978–79 amounted to $836,000.

Community health program

The Commonwealth Government's *Community Health Program* provides grants for both capital and operating costs in the establishment or improvement of a wide range of community-based health and health-related welfare services particularly in areas of health service scarcity. The Program is also intended to promote particular aspects of health care such as prevention, health education, health maintenance and rehabilitation.

Under the Program, the Commonwealth Government contributes up to 50 per cent of both capital and operating costs for general community health projects; up to 50 per cent of capital costs and 75 per cent of operating costs for women's refuges; and, commencing in 1979–80 funding at a 10 per cent level of both capital and operating costs for additional ethnic health workers and health interpreters and translators. After 1979–80, funding of both capital and operating costs of these latter two sub-programs will be at a 75 per cent level for two years.

In 1979–80, an amount of $53.27m has been appropriated for the block grants to the States. Included in this amount is $52.22m for general projects and women's refuges, $0.110m for ethnic health workers and $0.940m for interpreters and translators.

Financial allocations to the States take the form of annual block grants for each State's total program of approved projects. In addition to these grants to the States for projects operating at State or local levels, the Commonwealth provides funds—generally on a 100 per cent basis—direct to national projects conducted by non-government organisations. In 1979–80 there are sixteen such projects.

Details of Commonwealth expenditure on the Community Health Program in previous years is set out below.

COMMUNITY HEALTH PROGRAM: EXPENDITURE FROM APPROPRIATION BY THE COMMONWEALTH DEPARTMENT OF HEALTH

($'000)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*States Total*	*N.T.*	*A.C.T.*	*National Projects*	*Aust.*
1973–74	5,382	3,966	2,202	1,792	1,644	405	15,391	–	–	1,210	16,601
1974–75	14,289	4,975	3,173	2,417	4,003	1,026	29,883	–	–	4,720	34,603
1975–76	24,430	10,863	5,421	3,840	2,877	1,954	49,385	40	17	4,877	54,319
1976–77	28,934	15,021	7,602	4,700	5,696	2,599	64,522	–	–	4,292	68,844
1977–78	30,436	17,670	6,960	4,285	5,330	2,603	67,284	6	–	5,252	72,542
1978–79	19,671	12,473	5,231	3,580	4,611	2,090	47,656	40	–	5,638	53,334

School Dental Scheme

The *School Dental Scheme* was established in 1973 by co-operation between the Commonwealth and State Governments. The aim of the Scheme is to offer free dental care, including dental education, to all school children up to the completion of primary education, thereby, in the longer term, improving the dental health of the community.

The Scheme is based on the training and employment of dental therapists working under the general supervision of dentists. Treatment is provided in clinics established in or near the schools. Emphasis is placed on prevention of dental disease and on dental health education so as to reduce, as far as possible, the incidence of disease and costs of treatment. Some 30 per cent of the nation's primary school population is presently covered by the School Dental Scheme.

Ten dental therapy schools, located in all States, are presently operating. In addition some 695 school dental clinics, including mobile clinics, are also in operation throughout Australia.

The overall approved costs of the Scheme are being shared by the Commonwealth and the States on a 50:50 basis. Details of Commonwealth expenditure on the Scheme to date, together with the number of primary school children examined during the 1978–79 financial year appear below.

COMMONWEALTH EXPENDITURE: SCHOOL DENTAL SCHEME

($ millions)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1973–74	1.34	1.35	.47	1.96	1.05	1.37	7.54
1974–75	4.19	4.10	2.98	3.94	2.07	1.31	18.59
1975–76	3.96	3.40	6.30	3.37	5.13	1.86	24.02
1976–77	5.78	3.60	3.92	3.93	3.59	1.61	22.43
1977–78	3.98	3.86	4.87	5.34	3.85	1.81	23.71
1978–79	3.35	3.35	3.63	3.54	2.70	1.41	17.98

The number of primary school children examined by the various school dental services in Australia in 1978–79 totalled 565,430. This comprises of N.S.W. 111,088; Vic. 38,486; Qld 121,062; S.A. 122,656; W.A. 86,016; Tas. 46,811; A.C.T. 29,228 and N.T. 10,083.

Commonwealth Government grants to organisations associated with public health

In addition to providing the services mentioned on pages 225–32 the Commonwealth Government gives financial assistance to certain organisations concerned with public health. Examples of organisations included in this category are given in the following text.

The *Royal Flying Doctor Service* is a non-profit organisation providing medical services in remote areas of Australia. It is distinct from, but co-ordinates with, the Aerial Medical Service which, while formerly operated by the Commonwealth Department of Health, has been operated by the Northern Territory Government since 1 January 1979. The Royal Flying Doctor Service is financed mostly from donations and government contributions. For the year ended 30 June 1979 the Commonwealth Government paid grants totalling $1,748,000 towards operational costs and matching assistance of $758,183 towards an approved program of capital expenditure. The Service made flights during 1978–79 totalling 5.4 million kilometres and transported 9,098 patients. In the same period medical staff conducted a total of 88,254 consultations and dental treatment was given to 4,320 patients.

The *Red Cross Blood Transfusion Service* is conducted by the Australian Red Cross Society throughout Australia. The operating costs of the Service in the States are met by the State Governments paying 60 per cent, the Society 5 per cent of net operating costs or 10 per cent of donations, whichever is the less, and the Commonwealth Government meeting the balance. In the Northern Territory the Society contributes to operating costs as it does in the States, and the Commonwealth met the balance prior to 1 January 1979. After this date the Northern Territory is in the same position as the States. Approved capital expenditure by the Service in the States is shared on a $1 per $1 basis with the States and after 1 January 1979, with the Northern Territory Government. Commonwealth Government expenditure for each State and the Northern Territory during 1978–79 was $7,183,778, made up as follows: New South Wales, $1,868,742; Victoria, $2,731,652; Queensland, $810,964; South Australia, $788,393; Western Australia, $673,843; Tasmania, $128,406; and Northern Territory, $181,778.

The *National Heart Foundation of Australia* is a voluntary organisation established with the objective of reducing the toll of heart disease in Australia. It approaches this objective by programs sponsoring research in cardiovascular disease, community and professional education directed to prevention, treatment and rehabilitation of heart disease and community service programs including rehabilitation of heart patients, risk assessment clinics and surveys and documentation of various aspects of heart disease and treatment of heart disease in Australia. The Foundation's income in 1978 was $3,275,774 of which $2,550,797 was from public donations and bequests. The Commonwealth Government made grants of $134,000 for specific projects conducted by the Foundation. Since the inception of the Foundation research has been a major function and a total of $9,621,000 has been expended in grants to university departments, hospitals and research institutes and for fellowships tenable in Australia and overseas. It is notable however that with increasing opportunities for prevention and control of heart disease, the Foundation's education and community service activities are increasing significantly. In 1978 the expenditure on research was $1,162,607 while expenditure on education and community service was $1,554,311.

The *World Health Organization* (WHO) is a specialised agency of the United Nations having as the objective the attainment by all peoples of the highest level of health. Australia is assigned to the Western Pacific Region, the headquarters of which is at Manila and is represented annually at both the World Health Assembly in Geneva and the Regional Committee Meeting in Manila. Australia's contribution to WHO for 1978–79 was $A2,230,516.

The *International Agency for Research on Cancer* (IARC) was established in 1965 within the framework of the World Health Organization. The headquarters of the Agency are located in Lyon, France. The objectives and functions of the Agency are to provide for planning, promoting and developing research in all phases of the causation, treatment and prevention of cancer. Australia's contribution to the IARC for 1978–79 was $A312,386.

The *Isolated Patients Travel and Accommodation Assistance Scheme* commenced on 1 October 1978. The purpose of the Scheme is to financially assist patients living in isolated areas with costs incurred where they need to travel in excess of 200 kilometres to obtain specialist medical treatment from the nearest suitable medical specialist or consultant physician. For the 9 months up to 30 June 1979, 6,117 patients had been approved for benefit under the Scheme with a cost to the Commonwealth of $375,000.

STATE GOVERNMENT ACTIVITIES

(Includes activities of the Commonwealth Government in the Northern Territory and the Australian Capital Territory)

Public health legislation and administration

For a comprehensive account of the administration of health services in each State, the Northern Territory and the Australian Capital Territory, *see* the annual reports of the respective Departments of Health. For details of legislation and administrative changes in previous years *see* earlier issues of the Year Book. The following paragraphs refer briefly to recent developments.

In New South Wales:

- The Chiropractic Act, 1978 provides for the registration of chiropractors and osteopaths.
- The Dental Technicians Registration (Amendment) Act, 1978 amends the Dental Technicians Registration Act, 1975 to permit dental technicians holding practising certificates as dental prosthetists to carry out certain work in the practice of dental prosthetics.
- The Dentists (Amendment) Act, 1978 amends the Dentists (Amendment) Act, 1977 in relation to the year of enactment of the Dental Technicians Registration (Amendment) Act, 1978.
- The Health Commission (Amendment) Act, 1978 amends the Health Commission Act, 1972 with respect to the membership of the Health Commission of New South Wales.
- The Medical Practitioners (Chiropractic) Amendment Act, 1978 amends the Medical Practitioners Act, 1938 to exclude from the operation of that Act the practice of a registered chiropractor or registered osteopath.
- The Nurses Registration (Amendment) Act, 1978 amends the Nurses Registration Act, 1953 with respect to the enrolment of persons as nursing aides and the disciplining of nursing aides.
- The Physiotherapists Registration (Chiropractic) Amendment Act, 1978 amends the Physiotherapists Registration Act, 1945 to exclude from the operation of that Act the practice of a registered chiropractor or a registered osteopath.
- The Public Hospitals (United Dental Hospital of Sydney) Amendment Act, 1978 amends the Public Hospitals Act, 1929 to provide for the addition to the Second Schedule to that Act of the name of the United Dental Hospital of Sydney.

- The Workers' Compensation (Chiropractic) Amendment Act, 1978 amends the Workers' Compensation Act, 1926 to provide that a employer is liable, in certain circumstances, for the cost of medical treatment afforded to an injured worker by a registered chiropractor or registered osteopath.
- The Workers' Compensation (Dental Technicians) Amendment Act, 1978 amends the Workers' Compensation Act, 1926 to provide that an employer is liable, in certain circumstances, for the cost of medical treatment afforded to an injured worker by a dental prosthetist.

In Victoria:

- The *Health (Amendment) Act* 1978 increases the penalties for infringements of the Health Act.

In Queensland:

- The *Nursing Studies Act Amendment Act* 1978 gives power to the Board of Nursing Studies to charge examination fees.
- The *Medical Act Amendment Act* 1978 enables the Medical Board of Queensland to set up Advisory Committees to advise the Board on any matter within the scope of the Board 's functions.
- The *Medical Act Amendment Act* 1979 amends the definition of 'medical call service' to exclude normal locum tenens arrangements; provides that a medical practitioner with an overseas qualification will initially be registered for a period of 12 months only and that this registration will not be renewed unless the Board is satisfied that the doctor has been practising medicine in Queensland; and provides that a medical practitioner will be guilty of professional misconduct if he makes payment to another medical practitioner or accepts any benefit or favour for referring a patient for medical or diagnostic services. Provision is also made for the Board, with the approval of the Governor in Council, to formulate rules governing the professional conduct of medical practitioners, and for the Board to require a medical practitioner to appear before a Committee of Assessors to determine his medical fitness to practise medicine.
- The *Chiropractic Manipulative Therapists Act* 1979 provides for the constitution of the Chiropractic Manipulative Therapists Board of Queensland, the registration of chiropractic manipulative therapists and the regulation of the practice of chiropractic manipulative therapy. This Act has not yet been Proclaimed.
- The *State Development and Public Works Organisation Act and Other Acts Amendment Act* 1979 amends the *Hospitals Act* 1936–1978 by extending the borrowing power of Hospital Boards.

In South Australia:

- The Chiropractors Act, 1979 repeals the Chiropractic Act and establishes a registration board to register chiropractors and regulate the practice of chiropractic.
- The Dangerous Substances Act, 1979 regulates the keeping, handling, conveyance, use and disposal, and the quality of dangerous substances and repeals the Liquefied Petroleum Gas Act, 1960–1973 and the Inflammable Liquids Act, 1961–1976.
- The Narcotic and Psychotropic Drugs Act Amendment Act, 1978 amends the Narcotic and Psychotropic Drugs Act, 1934–1977 and confirms the validity of certain regulations made under the principal Act and provides that the power of entry or inspection conferred by the principal Act can be exercised by a person on the Authority of the Minister or the board.
- The Prevention of Pollution of Waters by Oil Act Amendment Act, 1979 amends the Prevention of Pollution of Waters by Oil Act, 1961–1975 to extend the existing provisions to apply to discharges from oil rigs, refineries, pipelines or vehicles and to include pollution of non-navigable waters.
- The Road Traffic Act Amendment Act, 1979 amends the Road Traffic Act, 1961–1976 to provide that the accuracy of breathalyser tests may be rebutted only by evidence of the concentration of alcohol in the blood of the driver as indicated by a blood sample.
- The South Australian Health Commission Act Amendment Act, 1978 amends the South Australian Health Commission Act, 1975–1977 to provide that fees charged by incorporated health centres for services provided by the centre may be fixed by regulation, upon the recommendation of the Commission.

In Western Australia:

- The *Noise Abatement Act*, 1978 provisional manifesto under section 6, allows for construction activity.
- The *Pharmacy Act*, 1978 amends the registration procedures.
- The *Nurses Act*, 1978 clarifies the educational requirements of candidates for registration.
- The *Chiropodists Act*, 1978 makes amendments relating to financial dues.

In Tasmania:

- The *Medical Act* 1978 allows for granting of full medical registration to persons with limited medical registration for certain purposes.
- The *Nurses Registration Act* 1978 amends the qualification requirements for registration of nurses.
- The *Road Safety (Alcohol & Drugs) Act* 1978 makes certain changes relating to evidence presented for prosecution of drink drivers. It also requires a person convicted of a drink driving charge to attend a prescribed course related to drink driving.

In the Northern Territory:

- The *Dangerous Drugs Act* 1978, amends the provisions relating to search warrants, the power of police to stop, search and detain, and to seize drugs and the provisions relating to forfeiture of money, valuables, etc.
- The *Dangerous Drugs Act (No. 2)* 1978 amends the provisions relating the the forfeiture of money and valuables to enable any other person to make representations regarding such person's interest in any money or valuable subject to forfeiture.
- The *Prohibited Drugs Act* 1978 amends the provisions relating to the use and supply of cannabis; the presumption with regard to possession of certain quantities of prohibited drugs or cannabis; the responsibility of the owner or occupier of premises with relation to prohibited drugs or cannabis; search warrants; the power of police to stop, search and detain; the seizure of drugs and the forfeiture and disposal of articles or valuables forfeited to the Crown. Also amends sections relating to penalties and the application of the Justices Act.
- The *Hospitals and Medical Services Act* 1978 amends the principal Act to provide for changes required by the Commonwealth relating to hospital insured patients.
- The *Transfer of Powers (Health) Act* 1978 provided for the transfer to the Northern Territory of certain executive powers with respect to Health.
- The *Poisons Act* 1978 amends the principal Act to allow the use of preparations containing small quantities of dextromethorphan to be sold without prescription.
- The *Radiation (Safety Control) Act* 1978 provides for the control, regulation, possession, use and transport of radioactive substances and irradiating apparatus.

In the Australian Capital Territory:

- The *Poisons and Narcotic Drugs Ordinance* 1978 replaces and improves provisions relating to narcotic drugs in other A.C.T. legislation which was generally outdated and inadequate to deal with the current problems of drug abuse. The Ordinance introduces strict control over persons supplying, possessing, prescribing or self-administering narcotic drugs. Heavy penalties are provided for an offence under the Ordinance.

  In addition, the Ordinance introduces labelling and packaging provisions which govern the supply in containers of certain scheduled substances, medicines, foods, drinks, condiments or preparations for internal use.

  Other provisions set out first aid directions and warning statements adapted from the National Health and Medical Research Council's Uniform Poisons Standard.
- The *Poisons and Dangerous Drugs (Amendment) Ordinance (No. 2)* 1978 and the *Public Health (Prohibited Drugs) (Amendment) Ordinance (No. 2)* 1978 amend their respective principal Ordinances by repealing or amending provisions that conflict with or duplicate provisions of the *Poisons and Narcotic Drugs Ordinance* 1978.
- The *Physiotherapists Registration (Amendment) Ordinance* 1978 empowers the Physiotherapists Board to order that the fees and expenses of a witness, who has been requested to attend before the Board by a person other than an officer of a government authority, should be paid in whole or in part by the Commonwealth if in the opinion of the Board it was reasonable for the request, by reason of which the person attended before the Board, to have been made.
- The *Nurses Registration (Amendment) Ordinance* 1978 amends the principal Ordinance to allow the registration of male persons as midwifery nurses and infants nurses.
- The *Medical Practitioners Registration (Amendment) Ordinance* 1978 introduces for the purpose of registration qualifications a schedule of approved qualifications granted in the United Kingdom and Ireland.
- The *Transplantation and Anatomy Ordinance* 1978 makes provision for and in relation to the removal of human tissues for transplantation, post-mortem examinations, the definition of death, the regulation of schools of anatomy and for related purposes.
- The *Ordinances Revision (Penalties) Ordinance* 1979 updates monetary penalties in A.C.T. legislation administered by the Minister of State for Health.

Supervision and care of infant life

Because the health of mothers and infants depends largely on pre-natal care as well as after-care, government, local government and private organisations provide instruction and treatment for mothers before and after confinement. The health and well-being of mother and child are looked after by infant welfare centres, baby clinics, crèches, etc.

In all States, Acts have been passed with the object of supervising the conditions of infant life and reducing the rate of mortality. Stringent conditions regulate the adopting, nursing and maintaining of children placed in foster-homes by private persons.

Nursing activities

Several State Governments maintain centres which provide advice and treatment for mothers and children. In addition, subsidies are granted to various associations engaged in welfare work.

The following table shows particulars of infant welfare centres in States where they can be separately identified. In other areas, infant welfare services have been largely absorbed into the more general Community Health Services.

INFANT WELFARE CENTRES

	Qld	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*
	1977–78	*1977–78*	*1978*	*1978–79*	*1978–79*
Number of centres(*a*)	299	328	(*b*)208	104	64
Attendance at centres—					
Pre-natal	6,257	n.a.	(*b*)18,734	3,208	n.a.
Post-natal—Number of children	519,052	276,223	287,742	150,530	86,675
Nurses' home-visits(*c*)	5,629	30,404	40,310	54,391	21,668
Nurses' hospital visits(*d*)	31,002	n.a.	28,232	9,355	208

(*a*) At end of year shown. (*b*) Part-time centres now included. (*c*) Pre- and post-natal. (*d*) Post-natal.

HOSPITALS AND NOTIFIABLE DISEASES

Public and Private Hospitals and Nursing Homes

The ABS no longer publishes Australia-wide details of these institutions although some limited State information is published by State offices of the ABS. Information is also published in the Annual Reports of the Commonwealth Department of Health.

Repatriation hospitals

A full range of services for the medical care and treatment of eligible veterans and certain dependants is available from the Department of Veterans' Affairs hospital system. Patients from the general community may also receive treatment at Repatriation hospitals provided bed capacity is available above the needs of the entitled veteran and the hospital facilities are appropriate to the treatment required.

In-patient treatment is provided at the six acute-care Repatriation General Hospitals (one in each State) and five auxiliary hospitals. In-patient treatment may also be provided in non-departmental public and private hospitals at the Department's expense in certain circumstances.

Mental patients requiring custodial care are, by agreement with the State Governments, accommodated at the expense of the Department in mental hospitals administered by the State authorities.

Details of patients, staff and expenditure on Repatriation institutions and other medical services are given in Chapter 9, Social Security and Welfare.

Hansenide hospitals

There are three isolation hospitals in Australia for the care and treatment of persons suffering from Hansen's disease (leprosy). The numbers of isolation patients at these hospitals in the year ended 31 December 1978 were: Little Bay, New South Wales, 2; Fairfield, Victoria, 4; and Derby, Western Australia, 28.

In Queensland, leprosy sufferers are treated at the leprosy annex of the Palm Island Hospital and at a number of other hospitals which do not have facilities set aside specifically for leprosy patients.

In the Northern Territory at 31 December 1978 there were 25 in-patients for the care and repair of deformity at the East Arm Hospital.

Mental health institutions

The presentation of meaningful statistics of mental health services has become increasingly difficult because of changes in recent years in the institutions and services for the care of mental patients. The emphasis has shifted from institutions for care of patients certified insane to a range of mental health services provided for in-patients and out-patients at psychiatric hospitals, admission and reception centres, day hospitals, out-patient clinics, training centres, homes for the mentally retarded and geriatric patients, psychiatric units in general hospitals, and the like. Numbers of institutions, beds available, staff and patients treated at locations catering only for the mentally ill in 1973–74 were published in Year Book No. 61, page 465. More recent figures indicate that fewer patients were treated as in-patients in nearly every State, but this should not be considered as an indication of improved mental health; it is rather a more advanced method of treatment, allowing patients greater contact with the outside world.

Hospital morbidity statistics

A major factor in the cost of health care in Australia is hospital treatment of patients. Attempts to measure the number of in-patients treated and bed-days involved for each disease or injury have been going on for some years, but as coverage is incomplete it is not yet possible to present national statistics. Figures for Queensland, Western Australia and Tasmania, however, are published in *Patients Treated in Hospitals, 1977* (4303.3), *Hospital In-patient Statistics, 1978* (4301.5) and *Hospital Morbidity, 1977* (4301.6) respectively.

An examination of Western Australian figures for 1977 indicates that the largest numbers of patients were treated for injury (11.8 per cent), genito-urinary diseases (10.5 per cent) and respiratory diseases (10.2 per cent) but, in terms of hospital bed-days, the greatest occupancy rate was caused by diseases of the circulatory system (12.3 per cent) followed by injury (10.8 per cent) and maternity (9.7 per cent).

Notifiable diseases

Although State and Territory Health Authorities are responsible for the prevention and control of infectious diseases within their areas of jurisdiction, certain powers and responsibility may be delegated to local authorities within each State. These usually involve such activities as personal health services, environmental sanitation and local communicable disease control.

The Commonwealth Department of Health receives notification figures from the States and Territories on a monthly basis and the national totals for the year are published in the annual report of the Director-General of Health.

The following table shows, by State and Territory, the number of cases notified in 1978 for those diseases which are notifiable in all States and Territories. The table does not include diseases which are notifiable only in certain States or Territories. Factors such as the following, affect both the completeness of the figures and the comparability from State to State and from year to year; availability of medical and diagnostic services; varying degrees of attention to notification of diseases; and enforcement and follow up of notifications by health authorities.

NOTIFIABLE DISEASES(*a*), NUMBER OF CASES NOTIFIED 1978

Disease	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*N.T.*	*Aust.*
Brucellosis	19	13	7	11	–	–	–	–	50
Cholera	–	–	–	–	1	–	–	–	1
Diphtheria	–	–	2	1	–	–	–	–	3
Gonorrhoea	4,180	2,474	2,107	1,248	1,249	195	180	719	12,352
Hepatitis, infective	927	655	394	142	270	108	52	113	2,661
Hepatitis, serum	265	214	92	128	42	1	15	16	773
Hydatid	8	5	–	3	1	–	–	–	17
Leprosy	6	3	12	3	15	–	–	16	55
Leptospirosis	4	8	14	9	1	1	–	–	37
Malaria	79	46	71	21	32	1	12	11	273
Ornithosis	–	2	–	2	1	–	1	–	6
Poliomyelitis	–	1	–	–	–	–	–	–	1
Salmonella	1,117	189	100	277	194	1	22	159	2,059
Syphilis	818	133	1,272	254	230	3	5	607	3,322
Tetanus	8	2	4	–	–	–	–	–	14
Tuberculosis	527	302	195	93	165	29	15	37	1,363
Typhoid fever	16	3	–	2	3	–	–	–	24
Typhus (all forms)	1	–	–	–	–	–	–	–	1

(*a*) There were no cases of anthrax, plague, smallpox or yellow fever.

Health-related surveys conducted by the ABS

Alcohol and Tobacco Consumption Survey

A survey conducted by ABS in February 1977 into alcohol and tobacco consumption patterns of the Australian population aged 18 years and over showed that 2.2 per cent of them drank over 80 grams of alcohol per day (considered by health authorities to be heavy drinking) and 35.9 per cent currently smoked cigarettes.

Consumption patterns by State and by such personal characteristics as sex, age, marital status and occupation are published in the publications *Alcohol and Tobacco Consumption Patterns, February 1977* (4308.0 and 4312.0).

Australian Health Survey

A survey was conducted by ABS during the period July 1977–June 1978 to obtain information on the health of Australians and the use of and need for various health services and facilities. Topics covered by the survey included recent and chronic illness, accidents, use of medicines, and use of doctors, dentists, and other health workers and facilities, as well as a range of personal and family characteristics. The items are described more fully in *Australian Health Survey Information Paper* (4340.0). Summary results of the survey have been published in *Australian Health Survey 1977–1978* (4311.0), and work is continuing on the production of more detailed publications dealing with the special topics of the survey.

The main features of the survey results so far published are:

- 65.3 per cent of the total population reported having had one or more conditions of illness in the two weeks before interview.
- 9.6 per cent of all persons working had at least one day off work due to sickness or injury in the two weeks before interview.
- 17.7 per cent of the total population had consulted a doctor in the two weeks before interview.
- 54.6 per cent of all persons aged 15 years and over reported having taken some form of medication in the two days before interview.

Health Insurance Survey

In March 1979 the ABS conducted a survey throughout Australia to obtain information about levels of health insurance cover in the Australian community. The survey obtained, in respect of contributor units, details of the hospital and medical insurance arrangements they had prior to 1 November 1978, the arrangements they had at the time of the survey, and their insurance intentions over the six months following the interview.

The survey found that as at March 1979, there were an estimated 4.0 million contributor units insured with private health funds of which 1.3 million were single contributor units and 2.7 million were family contributor units. The average number of persons per family contributor unit was estimated to be 3.19 persons. Of the total possible contributor units 62.4 per cent were covered by private health insurance at March 1979.

Results of the survey showing such details as changes in health insurance cover; income and composition of contributor units; age, country of birth and labour force status of head of contributor unit, are published in *Health Insurance Survey March 1979* (4335.0).

Hearing Survey

In September 1978 the ABS conducted a survey to obtain information about hearing problems for persons aged 15 years or more. Details included the cause and extent of their problem, whether a hearing aid was used, and if not, the reason for not using an aid. It also contained data on whether persons have had their hearing tested in the last 5 years.

The main features of this survey were:

- approximately 7 per cent of the total Australian population aged 15 years or more reported some form of hearing problem.
- the two main causes of hearing problems for these persons are constant noise and disease or illness.
- of persons reporting a hearing problem, 20 per cent possess a hearing aid.
- approximately 16 per cent of the population aged 15 years or more had their hearing tested in the last 5 years.

Results of the survey have been published in the publication *Hearing and the Use of Hearing Aids (Persons aged 15 years or more) September 1978* (4336.0).

DEATHS

Causes of Death and Perinatal Deaths

Causes of death in Australia are currently classified according to the Eighth Revision of the International Classification of Diseases (ICD) produced by the World Health Organisation. Detailed statistics are published in the publication *Causes of Death* (3303.0), and only broad groupings of causes of death are reproduced in this Year Book. Figures shown relate to the year 1977.

The major causes of death in the community are heart disease (accounting for 35.6 per cent), malignant neoplasms (cancers) (19.6 per cent), cerebrovascular disease (strokes) (13.4 per cent) and external injuries (8.0 per cent). Infectious diseases have caused few deaths in Australia in recent years, largely as a result of quarantine activities, immunisation campaigns and similar measures. In 1977, only 0.6 per cent of all deaths were due to such diseases.

As can be seen from the following table, the relative importance of groups of causes of death varies with age. Heart disease, cancer and strokes are predominant in middle and old age. Accidents, particularly those involving motor vehicles, are the primary cause of death in childhood and early adulthood. Most deaths (70 per cent) of infants occur within 28 days after birth and are due to congenital anomalies, birth injury or other conditions present from birth.

PRINCIPAL CAUSES OF DEATH IN VARIOUS AGE GROUPS, 1977

	Number			*Rate(a)*			*Percentage(b)*		
Age group and causes of death	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Under 1 year—									
Other causes of perinatal mortality	509	387	896	437	353	396	31.2	32.5	31.8
Congenital anomalies	430	347	777	369	316	343	26.4	29.1	27.5
Birth injury, difficult labour and other anoxic and hypoxic conditions	208	135	343	178	123	152	12.8	11.3	12.2
Symptoms and ill-defined conditions	216	130	346	185	197	153	13.3	10.9	12.3
1–4 years—									
All other accidents	99	58	157	20	12	16	27.3	21.6	24.9
Motor vehicle accidents	58	43	101	12	9	10	16.0	16.0	16.0
Congenital anomalies	48	37	85	10	8	9	13.2	13.8	13.5
All other diseases	40	42	82	8	9	8	11.0	15.7	13.0
5–14 years—									
Motor vehicle accidents	183	70	253	14	6	10	35.5	23.5	31.1
All other accidents	102	43	145	7	3	6	19.8	14.4	17.8
Malignant neoplasms	67	54	121	5	4	5	13.0	18.1	14.9
All other diseases	40	39	79	3	3	3	7.8	13.1	9.7
15–24 years—									
Motor vehicle accidents	1,130	297	1,427	90	25	58	55.7	44.9	53.1
All other accidents	291	62	353	23	5	14	14.4	9.4	13.1
Suicide and self-inflicted injuries .	194	52	246	16	4	10	9.6	7.9	9.2
Malignant neoplasms	84	58	142	7	5	6	4.1	8.8	5.3
25–34 years—									
Motor vehicle accidents	463	120	583	41	11	26	30.3	17.9	26.5
Malignant neoplasms	171	164	335	15	15	15	11.2	24.5	15.2
Suicide and self-inflicted injuries .	223	70	293	20	6	13	14.6	10.4	13.3
All other accidents	226	37	263	20	3	12	14.8	5.5	12.0
35–44 years—									
Malignant neoplasms	315	394	709	38	50	44	15.2	33.2	21.8
Ischaemic heart disease	460	110	570	55	14	35	22.2	9.3	17.5
Motor vehicle accidents	235	77	312	28	10	19	11.3	6.5	9.6
All other diseases	175	109	284	21	14	18	8.5	9.2	8.7
45–54 years—									
Ischaemic heart disease	2,084	475	2,559	263	63	166	36.3	15.9	29.3
Malignant neoplasms	1,264	1,226	2,490	160	163	161	22.0	41.0	28.5
Cerebrovascular disease	310	298	608	39	40	39	5.4	10.0	7.0
All other diseases	369	221	590	47	29	38	6.4	7.4	6.8
55–64 years—									
Ischaemic heart disease	4,455	1,475	5,930	731	231	476	40.3	25.3	35.1
Malignant neoplasms	2,858	2,045	4,903	469	321	393	25.8	35.1	29.0
Cerebrovascular disease	743	636	1,379	122	100	111	6.7	10.9	8.2
All other diseases	696	447	1,143	114	70	92	6.3	7.7	6.8

(*a*) Rates are per 100,000 of population at risk, except for children under one year of age which are per 100,000 live births registered.
(*b*) Percentage of all deaths within each age group.

PRINCIPAL CAUSES OF DEATH IN VARIOUS AGE GROUPS, 1977—*continued*

	Number			*Rate(a)*			*Percentage(b)*		
Age group and causes of death	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
65–74 years—									
Ischaemic heart disease	6,312	3,327	9,639	1,683	745	1,173	37.9	33.4	36.2
Malignant neoplasms	3,971	2,395	6,366	1,059	536	775	23.9	24.1	23.9
Cerebrovascular disease	1,750	1,648	3,398	467	369	414	10.5	16.6	12.8
All other diseases	1,179	783	1,962	314	175	239	7.1	7.9	7.4
75 years and over—									
Ischaemic heart disease	5,966	7,921	13,887	3,747	2,714	3,079	31.9	31.2	31.5
Cerebrovascular disease	2,897	5,906	8,803	1,820	2,024	1,952	15.5	23.2	19.9
Malignant neoplasms	3,230	2,978	6,208	2,029	1,021	1,376	17.3	11.7	14.1
All other diseases	1,849	2,787	4,636	1,161	955	1,028	9.9	11.0	10.5

(*a*) Rates are per 100,000 of population at risk, except for children under one year of age which are per 100,000 live births registered.
(*b*) Percentage of all deaths within each age group.

Perinatal deaths

Since deaths within the first four weeks of life (neonatal deaths) are mainly due to conditions originating before or during birth, and the same conditions can cause foetal death (stillbirth), special tabulations are prepared combining the two. These are termed 'perinatal deaths' and include all children born dead after the twentieth week of gestation or weighing 400 grams or more at delivery and all live-born children who die within 28 days after birth. The following table shows the number of foetal, neonatal and perinatal deaths from the major groups of causes in 1977; further details are published in *Perinatal Deaths* (3304.0).

Within the largest group, 'Other complications of pregnancy and childbirth', the main individual causes were maternal incompetent cervix (4.3 per cent of all perinatal deaths) and multiple births (5.3 per cent). Placental conditions were responsible for 16.5 per cent, and congenital anomalies for 20.0 per cent.

PERINATAL DEATHS BY CAUSE, 1977

	Number of deaths			*Rate*		
Cause of death	*Foetal*	*Neonatal*	*Perinatal*	*Foetal(a)*	*Neonatal (b)*	*Perinatal (a)*
Chronic circulatory and genito-urinary disease in mother	34	7	41	0.1	–	0.2
Other maternal conditions unrelated to pregnancy	99	46	145	0.4	0.2	0.6
Toxaemias of pregnancy	183	73	256	0.8	0.3	1.1
Maternal ante- and intrapartum infection	12	13	25	0.1	0.1	0.1
Difficult labour	54	58	112	0.2	0.3	0.5
Other complications of pregnancy and childbirth	308	416	724	1.3	1.8	3.2
Conditions of placenta	520	154	674	2.3	0.7	3.0
Conditions of umbilical cord	233	30	263	1.0	0.1	1.2
Birth injury without mention of cause	11	31	42	–	0.1	0.2
Haemolytic disease of newborn	31	18	49	0.1	0.1	0.2
Anoxic and hypoxic conditions not elsewhere classified	156	245	401	0.7	1.1	1.8
Other conditions of foetus and newborn	229	131	360	1.0	0.6	1.6
Congenital anomalies	253	565	818	1.1	2.5	3.6
Infections of foetus and newborn	3	58	61	–	0.3	0.3
Other diseases of foetus and newborn	4	108	112	–	0.5	0.5
External causes of injury to newborn	–	13	13	–	0.1	0.1
All causes	**2,130**	**1,966**	**4,096**	**9.3**	**8.7**	**17.9**

(*a*) Per 1,000 total births (live and dead). (*b*) Per 1,000 live births.

The perinatal death rate in 1977 was 17.93 per 1,000 total births, compared with 23.37 per 1,000 births in 1972 when the present definition was first adopted. Prior to 1972, stillbirths comprised only those of at least 28 weeks gestation but, even on this limited basis, the perinatal death rate was 24.8 per 1,000 births in 1965; so it is obvious there has been considerable improvement over the last twelve years.

Cremation

The first crematorium in Australia was opened in South Australia in 1903. At 31 December 1978 there were thirty-four crematoria in Australia, situated as follows: New South Wales, 16; Victoria, 4; Queensland, 6; South Australia, 2; Western Australia, 3; Tasmania, 2; Australian Capital Territory, 1. There is no crematorium in the Northern Territory. The number of cremations carried out in 1977 was 49,265 (43.7 per cent of all deaths); in 1978 it was 49,858 (46.0 per cent of all deaths).

CHAPTER 11

LAW AND ORDER

CHAPTER 11

LAW AND ORDER

Law and order throughout Australia are administered by Federal, State and Territorial governments and authorities. The principal authorities are the Australian Federal Police (formed in October 1979 from an amalgamation of the Commonwealth Police and the Australian Capital Territory Police), State police and Northern Territory Police; the Federal, State and Territory judiciary; and State and Territory corrective services. There are, as yet, no independent Federal corrective services.

This chapter provides information about crime in Australia, namely the results of a crime victims survey conducted in 1975, selected crimes reported or becoming known to police, and drug offences. There is also a description of the police, the Federal courts, legal aid, and the administration of law. Information is also given on convicted prisoners, bankruptcy, patents and design and copyright.

Detailed information about State and Territory police, courts, corrections and other law and order functions are provided in State Year Books and other statistical publications and in annual reports of the relevant authorities. Information may also be obtained from the New South Wales Bureau of Crime Statistics and Research and the South Australian Office of Crime Statistics which have been established by the respective State Governments and from the Australian Institute of Criminology which has been established by the Federal Government.

CRIME IN AUSTRALIA

In 1975, the Australian Bureau of Statistics, as part of a general social survey of households and of persons aged 15 years and over, conducted a survey of crime victims in which questions were asked about the nature and circumstances of the offence and whether the incident was reported to the police. The results of the survey were published in detail in the ABS publication *General Social Survey, Crime Victims, May 1975* (4105.0). Some basic information from this survey is given below.

In addition to the Annual Reports of the Police Commissioners which provide information on known crime in each State and Territory there are two regular sources of information relating to crime in Australia on a national basis. The series published as "Selected crime reported or becoming known to police" relates to specific offence groups about which the police forces in Australia have been reporting on a regular basis since 1964. The annual report *Drug Abuse in Australia* is published by the Crime Intelligence Unit of the Australian Federal Police (formerly Commonwealth Police) from information supplied to them by all police forces and the Federal Narcotics Bureau. Extracts from both of these sources are included below.

Crime Victims Survey 1975

The survey on crime victimisation was part of a General Social Survey of households and persons conducted by the Australian Bureau of Statistics in March to May 1975. Questions were asked about incidents occurring in the twelve months preceding the date of interview.

The survey was designed to provide information on a selection of crimes, including unreported incidents and sought information on whether the victims knew the offenders, the location and time of day at which incidents occurred, whether the incidents were reported to the police, and if not, what were the reasons for not reporting the incidents.

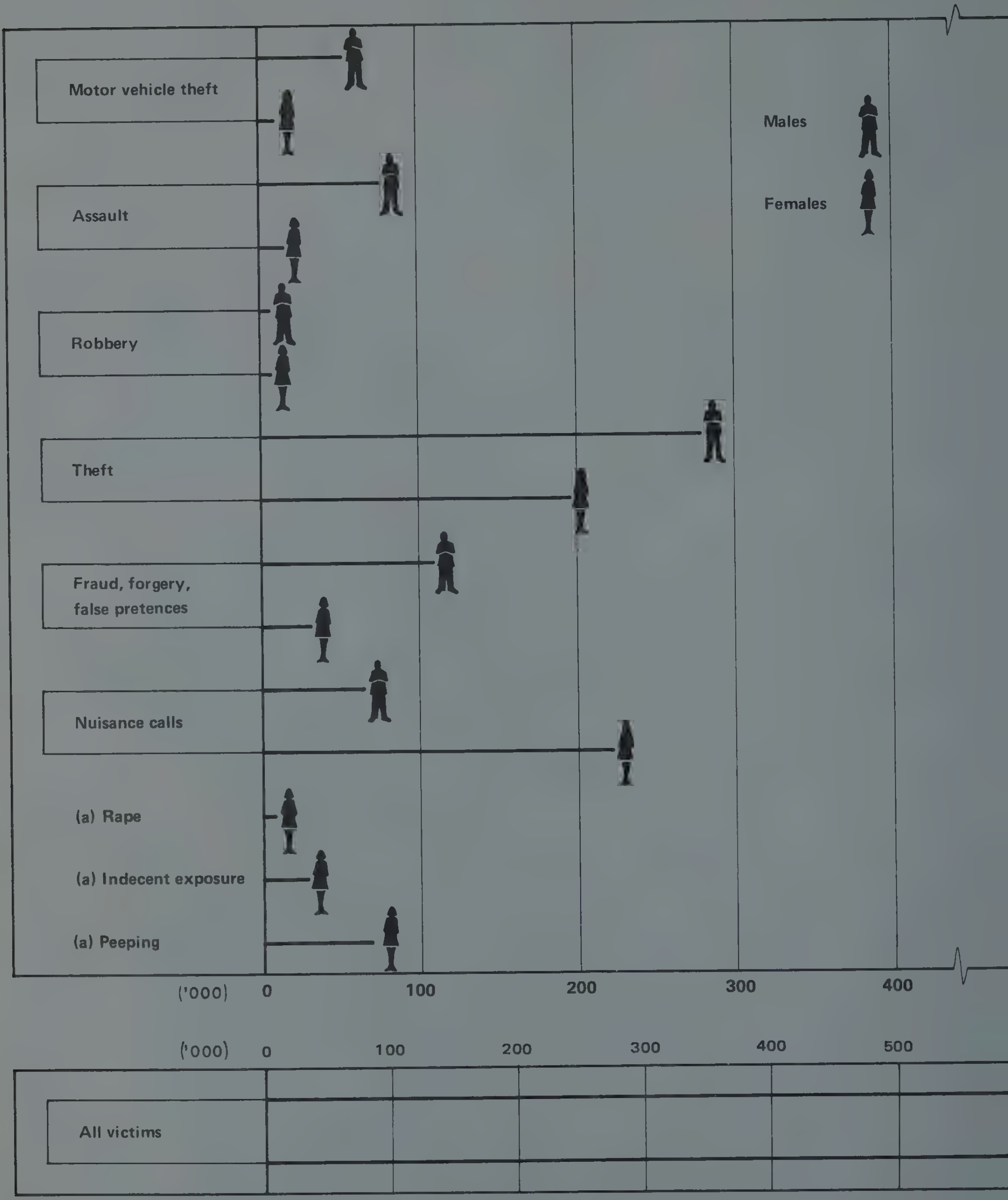
The crimes covered were breaking and entering, motor vehicle theft, assault, robbery, theft, sex offences (rape, indecent exposure and peeping), fraud, forgery and false pretences, and nuisance calls.

The total number of people who were victims of all types of crime was as follows (each victim being counted once only regardless of how many types of crime or how many times he/she was a victim):

	Male	*Female*	*Persons*
Number of people victimized ('000)	519.3	518.9	1038.2

Questions about motor vehicle theft, assault, robbery, theft, fraud, forgery and false pretences, and nuisance calls were asked of all persons aged 15 years and over. The number of persons who were victims of each type of crime are shown in the following graph (each person being counted once for each type of crime he/she was a victim of regardless of the number of times he/she was a victim of that crime).

NUMBER OF VICTIMS OF SELECTED OFFENCES
BY SEX OF VICTIM



(a) Questions about rape, indecent exposure and peeping were asked of females aged 15 years and over.

PLATE 33

Questions about breaking and entering were asked only of household heads. The number of households broken into and entered was 123,500.

The following table gives the number of incidents which occurred and whether they were reported to the police.

NUMBER OF INCIDENTS, AND WHETHER REPORTED TO POLICE

	Number of incidents	Reported to Police		
		Yes	No	Not stated
	('000)	%	%	%
Breaking and entering (*a*)	146.5	62.1	30.3	7.6
Motor vehicle theft	62.7	89.3	10.7	*
Assault	191.0	44.0	52.5	*
Robbery	14.2	54.2	40.1	*
Theft	609.9	34.7	64.0	1.2
Fraud, forgery and false pretences	214.1	23.9	75.4	*
Nuisance calls	(*b*)285.9	13.2	84.3	*
Rape (*c*)	7.8	28.2	65.4	*
Indecent exposure (*c*)	26.4	(*d*)	(*d*)	(*d*)
Peeping (*c*)	127.9	(*d*)	(*d*)	(*d*)

(*a*) Asked only of household heads. (*b*) Number of persons providing information on whether the incidents were reported to the police. The total number of incidents was 1,612,600. (*c*) Asked only of females aged 15 years and over. (*d*) Details were not sought for this type of offence. * Subject to sampling variability too high for most practical purposes.

The reasons given for not notifying police were:

	Per cent
Too trivial	27.6
Police could not do anything about it	14.1
Somebody else was notified instead	7.1
Police would not bother to do anything about it	6.0
Victim would handle situation himself	5.9
Thought it was a private, not a criminal matter	4.8
Would not bother since offenders thought to be children	3.3
Other reasons (*a*)	31.1
Total	**100.0**

(*a*) Includes 'Did not want harm or punishment to come to offender', 'Did not want to take time (in court, from work, etc.)', 'Afraid of reprisal', 'Not sure the offenders would be caught', 'Too confused or upset', 'Police discovered the incident' or 'Fear of insurance problems' as reasons for not notifying the police of an incident. Relatively few respondents gave these reasons and consequently the standard error associated with the estimates for these responses was too high relative to the size of the estimate for these reasons to be included with any certainty in their correct position in the ranking.

Selected crime reported to police

The following tables show details of certain categories of offences reported or becoming known to police. This series, which commenced in 1964, is derived from police records and is based as far as possible, on definitions and procedural arrangements uniformly determined for all States. For definitions and explanatory notes relating to the following statistics *see* Year Book No. 61, pp 475–7.

Offences reported or becoming known to police

The following table shows, for each State and Territory, the number of offences in each of the seven categories covered by this series which were reported or became known to police. The table includes offences reported to and investigated by the Australian Federal Police (formerly the Commonwealth Police).

SELECTED CRIME REPORTED OR BECOMING KNOWN TO POLICE: NUMBER OF OFFENCES(*a*)

Category of Crime	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Homicide (*b*)—									
1975–76	273	127	152	74	53	16	17	2	714
1976–77	314	171	136	57	39	11	33	4	765
1977–78	301	139	121	49	25	9	21	5	670
Serious assault—									
1975–76	837	1,413	537	244	320	45	43	34	3,473
1976–77	895	1,277	544	251	429	42	58	42	3,538
1977–78	1,076	1,531	738	262	367	85	42	53	4,154
Robbery—									
1975–76	1,319	826	332	269	145	35	29	18	2,973
1976–77	1,353	965	282	265	127	38	19	21	3,070
1977–78	1,716	1,110	318	213	155	26	24	15	3,577
Rape—									
1975–76	342	273	64	131	71	25	7	7	920
1976–77	307	264	77	148	93	17	15	7	928
1977–78	365	233	72	172	98	16	17	10	983
Breaking and entering—									
1975–76	41,135	33,525	15,657	14,027	14,013	2,792	978	1,196	123,323
1976–77	42,142	37,347	14,318	14,562	14,433	2,835	1,141	1,512	128,290
1977–78	49,392	45,573	16,366	15,273	14,550	3,145	1,111	1,746	147,156
Motor vehicle theft (*c*)—									
1975–76	21,769	10,880	5,199	4,846	5,279	1,032	605	495	50,105
1976–77	23,443	13,067	5,189	4,496	5,499	858	675	481	53,708
1977–78	27,018	15,487	5,709	5,516	6,394	933	645	593	62,295
Fraud, forgery and false pretences—									
1975–76	15,372	15,982	8,293	3,238	4,103	809	559	701	49,057
1976–77	18,349	14,166	8,946	3,604	3,524	984	503	1,695	51,771
1977–78	16,578	16,453	10,446	3,072	7,844	1,298	409	1,529	57,629

(*a*) Includes attempts and a small number of unfounded reports. (*b*) Comprising murder, attempted murder, and manslaughter, including manslaughter arising from motor vehicle accidents. (*c*) Includes illegal, unlawful or unauthorised use, etc.

Crimes cleared and persons involved

The tables which follow show, for the various categories of offences, the numbers of offences reported, the numbers cleared, and the numbers of persons involved according to age and sex. Subdivisions of the categories homicide, breaking and entering, and fraud, etc., are provided.

HOMICIDE: CRIMES REPORTED OR BECOMING KNOWN, CRIMES CLEARED AND PERSONS INVOLVED

	Murder			*Attempted murder*			*Manslaughter*(*a*)			*All homicide*		
	1975–76	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*
Numbers reported or becoming known .	250	252	243	140	148	130	332	365	297	714	765	670
Numbers cleared . .	225	231	212	131	143	119	325	362	292	698	736	623
Persons involved in crimes cleared—												
Aged (*b*)—												
16 years and under	7	13	3	2	4	2	6	6	5	15	23	10
17 and 18 years .	16	15	9	11	14	11	50	37	34	77	66	54
19 and 20 years .	18	21	32	12	9	11	54	58	40	84	88	83
21 years and over	156	198	167	84	99	93	211	210	178	451	507	438
Total persons involved . .	**197**	**247**	**211**	**109**	**126**	**117**	**321**	**311**	**257**	**(*c*)627**	**(*c*)684**	**(*c*)585**

(*a*) Includes manslaughter arising from motor vehicle accidents. (*b*) Age last birthday at time of clearance. (*c*) Includes 55 females in 1975–76, 73 in 1976–77, and 61 in 1977–78.

SERIOUS ASSAULT, ROBBERY, RAPE: CRIMES REPORTED OR BECOMING KNOWN, CRIMES CLEARED AND PERSONS INVOLVED

	Serious assault			*Robbery*			*Rape*		
	1975–76	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*
Numbers reported or becoming known	3,473	3,538	4,154	2,973	3,070	3,577	920	928	983
Numbers cleared	2,600	2,532	3,059	911	845	973	483	433	496
Persons involved in crimes cleared—									
Aged (*a*)—									
16 years and under . .	219	209	262	209	183	187	80	74	67
17 and 18 years . . .	326	293	355	243	210	224	134	109	103
19 and 20 years . . .	320	357	393	167	193	206	91	95	111
21 years and over . .	1,734	1,763	2,076	457	460	540	284	249	292
Total persons involved	(*b*)**2,599**	(*b*)**2,622**	(*b*)**3,086**	(*c*)**1,076**	(*c*)**1,046**	(*c*)**1,157**	**589**	**527**	**573**

(*a*) Age last birthday at time of clearance. (*b*) Includes 151 females in 1975–76, 165 in 1976–77, and 184 in 1977–78. (*c*) Includes 69 females in 1975–76, 93 in 1976–77, and 97 in 1977–78.

BREAKING AND ENTERING: CRIMES REPORTED OR BECOMING KNOWN, CRIMES CLEARED AND PERSONS INVOLVED

	Dwellings			*Shops*			*Other buildings*			*All breaking and entering*		
	1975–76	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*
Numbers reported or becoming known . . .	62,750	64,712	73,029	23,035	22,092	27,219	37,500	41,486	46,908	123,323	128,290	147,156
Numbers cleared .	11,756	11,049	10,433	5,750	5,132	5,094	6,693	6,893	7,073	24,199	22,074	22,600
Persons involved in crimes cleared—												
Aged (*a*)—												
16 years and under . .	4,036	3,951	4,155	2,816	2,495	2,583	3,610	3,787	3,928	10,462	10,233	10,666
17 and 18 years	871	884	955	900	864	953	649	827	946	2,420	2,575	2,854
19 and 20 years	495	552	598	530	509	513	377	466	504	1,402	1,537	1,615
21 years and over . . .	1,383	1,319	1,412	1,126	1,125	1,154	889	1,034	1,151	3,398	3,478	3,717
Total persons involved .	**6,785**	**6,706**	**7,120**	**5,372**	**4,993**	**5,203**	**5,525**	**6,114**	**6,529**	(*b*)**17,682**	(*b*)**17,813**	(*b*)**18,852**

(*a*) Age last birthday at time of clearance. (*b*) Includes 769 females in 1975–76, 750 in 1976–77 and 1,047 in 1977–78.

MOTOR VEHICLE THEFT, ETC., FRAUD, ETC.: CRIMES REPORTED OR BECOMING KNOWN, CRIMES CLEARED AND PERSONS INVOLVED

	Motor vehicle theft(a)			*Fraud, forgery, false pretences*								
				Valueless cheques			*Other*			*All fraud, etc.*		
	1975–76	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*
Numbers reported or becoming known . . .	50,105	53,708	62,295	10,946	10,916	10,978	33,310	40,855	46,651	43,904	51,771	57,629
Numbers cleared . . .	10,668	10,866	10,962	6,966	6,894	7,534	23,745	24,533	28,246	30,731	31,427	35,780
Persons involved in offences cleared—												
Males aged(*b*)—												
16 years and under	4,738	4,828	5,414	90	76	64	436	420	436	526	496	500
17 and 18 years . .	2,583	2,642	2,812	113	118	92	465	501	523	578	619	615
19 and 20 years . .	1,199	1,302	1,433	122	130	135	557	541	616	679	671	751
21 years and over .	2,047	1,983	2,106	1,259	1,426	1,349	3,667	3,792	3,967	4,926	5,218	5,316
Total Males . .	*10,567*	*10,775*	*11,765*	*1,584*	*1,750*	*1,640*	*5,125*	*5,254*	*5,542*	*6,709*	*7,004*	*7,182*
Females aged (*b*)—												
16 years and under	193	216	201	19	12	31	194	190	187	213	202	218
17 and 18 years . .	55	66	66	59	29	41	206	220	273	265	249	314
19 and 20 years . .	25	31	33	42	29	53	176	167	228	218	196	281
21 years and over .	53	58	78	242	235	266	815	919	1,164	1,057	1,154	1,430
Total females .	*326*	*371*	*378*	*362*	*305*	*391*	*1,391*	*1,496*	*1,852*	*1,753*	*1,801*	*2,243*
Total persons involved . .	**10,893**	**11,146**	**12,143**	**1,946**	**2,055**	**2,031**	**6,516**	**6,752**	**7,394**	**8,462**	**8,805**	**9,425**

(*a*) Includes illegal, unlawful and unauthorised use, etc. (*b*) Age last birthday at time of clearance.

The number of stolen vehicles recovered was: 1975–76, 42,648; 1976–77, 46,803; 1977–78, 52,623.

Drug offences

Australia is a signatory to the Single Convention of Narcotic Drugs which has as its main aim the limitation of narcotic drugs to legitimate medical and research purposes.

As its name implies, the Single Convention covers only the so-called narcotic drugs including cannabis and its derivatives. In recognition that there are other drugs of dependence, the member nations met during 1970 and 1971 and drew up a further Convention to impose controls on psychotropic substances such as hallucinogens, amphetamines, other central nervous system stimulants, barbiturates, tranquillisers and certain other sedatives.

Legislative provisions

For details *see* Year Book No. 63, page 218.

Law enforcement in respect of drugs in Australia is handled mainly by the following bodies:

- State and Territory police forces who police State and Territory laws and Commonwealth laws in conjunction with Commonwealth authorities.
- The Australian Federal Police who police Commonwealth laws and who, in November 1979, took over the functions of the Narcotics Bureau from the Department of Business and Consumer Affairs.
- The Bureau of Customs in the Department of Business and Consumer Affairs which has responsibility for the enforcement of laws controlling importing and exporting of drugs.

The National Standing Control Committee on Drugs of Dependence was established in 1969 by the Commonwealth Government to co-ordinate the activities of the various Commonwealth, State and Territories' bodies participating in the administration of drug laws and control. The role of the Committee is to consider further steps that can be taken by the national and State Governments together to combat all aspects of drug abuse in Australia, including addiction, trafficking, treatment and education.

The Australian Federal Police serve as the national agency for the systematic collection, collation, evaluation and dissemination of information concerning the illicit drug traffic in Australia. The following extracts are from the detailed statistics published by them in the annual report *Drug Abuse in Australia : A Statistical Survey.*

DRUG OFFENCES: OFFENCE TYPE, CLEARED BY CHARGE, 1975 TO 1977

Year	*Possess*	*Import*	*Use/ administer*	*Traffic*	*Steal*	*False pretences*	*Forged scripts*	*Other and non-related crime*
1975	7,878	81	4,537	877	228	103	343	1,238
1976	9,812	210	5,510	1,048	231	215	447	1,966
1977	11,711	163	5,982	1,255	91	184	616	2,203

DRUG OFFENCES: NUMBER OF CHARGES(*a*) INVOLVING SPECIFIC DRUG TYPES, 1975 TO 1977

Type of drug and Year	*Possess*	*Import*	*Use/ administer*	*Traffic*	*Steal*	*False pretences*	*Forged scripts*	*Other*	*Total*
Narcotics–									
1975	590	15	581	147	73	78	305	87	1,876
1976	941	92	1,061	219	70	228	391	126	3,128
1977	1,194	93	1,138	305	58	133	474	281	3,676
Cannabis–									
1975	7,518	68	3,809	686	1	–	–	926	13,008
1976	9,143	149	4,379	766	6	1	–	1,245	15,689
1977	10,923	91	4,640	878	1	–	–	1,444	17,977
Amphetamines–									
1975	26	–	17	3	3	–	20	1	70
1976	36	–	32	11	–	2	10	2	93
1977	53	2	47	13	1	7	27	6	156
Barbiturates hypnotics–									
1975	150	1	97	20	11	6	22	8	315
1976	197	1	142	72	4	26	59	12	513
1977	331	–	277	96	13	20	49	24	810
Tranquillisers–									
1975	17	–	11	3	3	12	46	7	99
1976	25	–	15	9	3	–	14	2	68
1977	29	–	18	8	11	3	4	13	86
Hallucinogens–									
1975	282	4	104	57	–	–	–	2	449
1976	259	2	91	58	–	1	–	5	416
1977	166	–	51	28	–	–	–	5	250
Other–									
1975	7	–	5	–	5	3	1	–	21
1976	23	–	7	1	2	2	4	2	41
1977	53	3	10	4	7	5	7	24	113
Grand total–									
1975	**8,590**	**88**	**4,624**	**916**	**96**	**99**	**394**	**1,031**	**15,838**
1976	**10,624**	**244**	**5,727**	**1,136**	**85**	**260**	**478**	**1,394**	**19,948**
1977	**12,749**	**189**	**6,181**	**1,332**	**91**	**168**	**561**	**1,797**	**23,068**

(*a*) If a number of different drug types have been involved in an offence, they are counted under each drug category.

PROSECUTIONS AND CONVICTIONS FOR DRUG OFFENCES REPORTED TO THE AUSTRALIAN CRIME INTELLIGENCE CENTRE: PERSONS INCLUDED

	Number of offenders			*Number of individual charges*			*Convictions on individual charges*		
	1975	*1976*	*1977*	*1975*	*1976*	*1977*	*1975*	*1976*	*1977*
Males aged—									
16 years and under . . .	598	793	834	688	864	903	92	228	159
17 and 18 years	2,441	3,053	3,089	2,725	3,307	3,352	674	1,097	998
19 and 20 years	3,112	3,736	3,962	3,448	4,167	4,535	1,035	1,460	1,489
21 years and over . . .	5,641	7,147	8,522	6,504	8,568	10,297	1,848	2,786	2,999
Females aged—									
16 years and under . . .	144	157	181	167	171	198	23	44	37
17 and 18 years	420	481	545	452	536	629	117	195	177
19 and 20 years	426	527	701	470	602	819	135	204	231
21 years and over . . .	705	963	1,159	831	1,215	1,472	202	297	401
Persons	**13,487**	**16,857**	**18,993**	**15,285**	**19,430**	**22,205**	**4,126**	**6,311**	**6,491**

	Sentences on convictions								
	Fines imposed			*Gaol sentences*			*Number of bonds granted*		
	1975	*1976*	*1977*	*1975*	*1976*	*1977*	*1975*	*1976*	*1977*
Males aged—									
16 years and under . . .	32	108	89	–	–	13	45	84	78
17 and 18 years	489	843	812	14	42	41	163	187	187
19 and 20 years	783	1,141	1,253	51	89	90	176	204	148
21 years and over . . .	1,319	1,983	2,329	177	280	277	299	298	306
Females aged—									
16 years and under . . .	3	17	14	–	–	–	20	25	24
17 and 18 years	81	125	126	3	6	3	33	52	49
19 and 20 years	95	131	170	2	9	10	42	56	53
21 years and over . . .	123	194	296	9	20	17	57	81	79
Persons	**2,925**	**4,542**	**5,089**	**256**	**446**	**451**	**835**	**987**	**924**

Convicted prisoners

There are prisons in all States and the Northern Territory. In the Australian Capital Territory there are lock-ups attached to each of the police stations in Canberra and at Jervis Bay, as well as a remand centre in the Canberra suburb of Belconnen where offenders are held for short periods. Prisoners sentenced by a court in the Australian Capital Territory to more than five days are usually held in New South Wales prisons.

CONVICTED PRISONERS

30 June—	*N.S.W.(a)*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
1974	2,696	1,568	1,224	640	915	346	144	7,533
1975	3,009	1,488	1,305	632	867	361	158	7,820
1976	3,221	1,490	1,399	594	873	297	160	8,034
1977	3,272	1,386	1,393	618	1,032	267	175	8,143
1978	3,406	1,608	1,470	690	1,120	271	134	8,699
1979	3,574	1,647	1,583	688	1,332	305	226	9,355

(*a*) Includes Australian Capital Territory prisoners held in New South Wales prisons.

Police

The primary duties of the police are to prevent crime, to detect and detain offenders, to protect life and property, to enforce the law, and to maintain peace and good order. In addition, they perform many duties in the service of the State, e.g. they act as clerks of petty sessions in small centres, as crown land bailiffs, foresters, mining wardens, and inspectors under the Fisheries and various other Acts. In metropolitan and large country areas they also regulate the street traffic. With the exception of the Australian Federal Police (formed in October 1979 by amalgamation of the Commonwealth Police and the Australian Capital Territory Police) and the police in the Northern Territory, the police forces of Australia are under the control of the State Governments, but their members perform certain functions for the Commonwealth Government, such as acting as aliens registration officers and, concurrently with Australian Federal Police and other Commonwealth Officers, policing various Commonwealth Acts and Regulations.

Women police perform special duties at places where young women and girls are subject to moral danger, control traffic at school crossings and lecture school children on road safety as well as normal police duties.

Australian Federal Police

The Australian Federal Police was formed in October 1979 by the amalgamation of the Commonwealth Police (*see* previous editions of Year Book Australia) and the Australian Capital Territory Police. It is the principal agency for the enforcement of the laws passed by the Commonwealth Parliament; it performs normal police functions in the Australian Capital Territory and it is also responsible for the protection of Commonwealth Government property and interests at various buildings and establishments under the control of the Commonwealth Government. This force co-ordinates the work of other investigation and law enforcement agencies and acts on behalf of the United Nations Organisation for the suppression of obscene literature and trafficking in women.

Under the control of the force is the Australian Police College at Manly, New South Wales, which provides training for officers of various police forces and other agencies in Australia and New Zealand. The force has its Head Office in Canberra and District Offices in each capital city.

The strength of the police forces in Australia and the ranks of the personnel involved in the police forces in Australia are shown in the following table.

POLICE FORCES(*a*)

At 30 June–	*C'wealth(b)*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.(b)*
1976	1,466	8,628	(*c*)6,730	4,034	3,007	2,358	1,004	417	551
1977	1,505	8,959	(*c*)6,663	4,230	3,216	2,345	1,026	451	549
1978	1,912	9,274	(*c*)7,001	4,233	3,351	2,490	1,030	470	573
Comprising in 1978–									
Executive officers	23	54	71	19	39	38	11	7	5
Inspectors	44	209	260	100	66	61	53	23	19
Sergeants	193	2,171	1,731	1,028	389	569	145	103	102
Constables(*a*)	1,652	6,840	4,939	3,086	2,857	1,822	821	337	447

(*a*) Includes trainees, cadets and probationary constables in all States and Territories, but excludes cadets in Victoria. (*b*) From October 1979 the Commonwealth Police and Australian Capital Territory Police have been combined in the Australian Federal Police. (*c*) Excludes cadets. *See* footnote (*a*).

FEDERAL COURTS

The judicial power of the Commonwealth is vested in the High Court of Australia, in the Federal courts created by Parliament and in the State courts invested by Parliament with Federal jurisdiction. The nature and extent of the judicial powers of the Commonwealth are prescribed by Chapter III of the Australian Constitution. For details of Commonwealth of Australia Constitution Act *see* Year Book No. 62, pages 7–24.

High Court of Australia

The High Court consists of a Chief Justice and six other Justices, and has its principal seat in Sydney. However, sittings are held in every State capital as the need arises.

A new building to permanently accommodate the High Court is being built in Canberra and is scheduled to open in 1980.

The Australian Constitution itself confers original jurisdiction on the High Court in all matters:

(i) arising under any treaty;
(ii) affecting consuls or other representatives of other countries;
(iii) in which the Commonwealth of Australia, or a person suing or being sued on behalf of the Commonwealth of Australia, is a party;
(iv) between States, or between residents of different States, or between a State and a resident of another State;
(v) in which a writ of mandamus or prohibition, or an injunction, is sought against an officer of the Commonwealth of Australia.

In addition, the Federal Parliament may, under the Constitution, confer additional original jurisdiction on the High Court in certain classes of matters. The Court currently has original jurisdiction in all matters arising under the Constitution or involving its interpretation, in trials of indictable offences against the laws of the Commonwealth, and in respect of certain other matters specified in various laws made by the Parliament.

The High Court's jurisdiction is made exclusive of the jurisdiction of State courts in:

(i) matters arising directly under any treaty;
(ii) suits between States or between persons suing or being sued on behalf of different States, or between a State and a person suing or being sued on behalf of another State;
(iii) suits by the Commonwealth of Australia or any person suing on behalf of the Commonwealth of Australia against a State, or any person being sued on behalf of a State;
(iv) suits by a State, or any person suing on behalf of a State against the Commonwealth of Australia or any person being sued on behalf of the Commonwealth of Australia;
(v) matters in which a writ of mandamus or prohibition is sought against an officer of the Commonwealth of Australia or a Federal court.

The High Court's exclusive jurisdiction no longer includes matters involving the limits *inter se* of the constitutional powers of the Commonwealth and those of the States. Where the High Court has concurrent jurisdiction, it may remit a matter commenced in the High Court to a court of concurrent jurisdiction and remove a matter commenced in another such court into the High Court.

Under the Constitution the High Court has jurisdiction, with such exceptions and subject to such regulations as the Federal Parliament prescribes, to hear and determine appeals from all judgments, decrees, orders and sentences of:

(i) any Justice or Justices exercising the original jurisdiction of the High Court,
(ii) any other Federal court or court exercising Federal jurisdiction, and
(iii) the Supreme Court or other court of any State from which appeal lay to the Privy Council at the establishment of the Commonwealth of Australia.

Subject to the exception mentioned below, an appeal may be brought as of right from a final judgment of a Full Court of a State Supreme Court where the interpretation of the Australian Constitution is involved; from judgments for the sum of $20,000 or upwards; and from judgments in any proceedings in which the matter in issue amounts to or is of the value of $20,000 or upwards or which involve a claim, demand or question relating to any property or civil right amounting to or of the value of $20,000 or upwards. The exception to the generality of this statement is that an appeal on a ground relating to quantum of damages for death or personal injury lies only with special leave of the High Court. In all other cases in which the High Court has appellate jurisdiction, appeals lie only by special leave of the Court.

Appeal to the Privy Council

In 1968 the Federal Parliament passed an Act, which came into operation on 1 September 1968, restricting appeals to the Privy Council. Under the Act no appeal can be taken to the Privy Council from a judgment of the Supreme Court of any Territory or a Federal court other than the High Court.

Until 1975, special leave of the Privy Council to appeal from the High Court could be sought only in matters that came to the High Court on appeal from the Supreme Court of a State exercising jurisdiction not derived from Federal legislation, and which did not raise in the High Court any question of the application or interpretation of the Australian Constitution, or of Federal or Territory legislation. In 1975 the right to apply for special leave in these cases was removed. An exception to the generality of the foregoing is that under the Australian Constitution an appeal lies to the Privy Council in cases involving the powers of the Commonwealth vis-a-vis the States if the High Court certifies that the question is one that ought to be determined by the Privy Council. No such certificate has in fact been granted since 1913.

HIGH COURT OF AUSTRALIA TRANSACTIONS

	1977	*1978*
Original jurisdiction		
Number of writs issued	148	88
Number of matters heard	20	4
Appellate jurisdiction		
Number of appeals filed		
by plaintiff as appellant	29	31
by defendant as appellant	25	26
Number of applications for leave/special leave to appeal:		
filed	108	141
allowed	42	29
refused	41	46
Number of judgments		
reserved	86	79
oral	66	26
Result of hearings		
Verdict/judgments		
plaintiff/appellant	67	25
defendant/respondent	60	74
Otherwise disposed of	10	24
Miscellaneous		
Number of		
matters remitted to State Courts	46	19
matters removed into High Court under the Judiciary Act	5	13
demurrers set down and heard	5	2
cases stated for opinion of a Full Court	4	1
Amount of fees collected	$16,637	$34,803

Federal Court of Australia

The Federal Court of Australia was created in 1976 and commenced to exercise jurisdiction on 1 February 1977.

For the purposes of its organisation and business, the Federal Court of Australia consists of two Divisions: an Industrial Division and a General Division. Matters arising under the *Conciliation and Arbitration Act* 1904 and under the *Stevedoring Industry Act* 1956 are dealt with in the Industrial Division. All other matters are dealt with in the General Division of the Court. The Federal Court of Australia sits as required in each State and in the Australian Capital Territory and the Northern Territory.

The *Federal Court of Australia Act* 1976 provides that the Court has such original jurisdiction as is invested in it by laws made by the Federal Parliament.

In respect of matters the hearing of which commenced on or after 1 February 1977, the Court's original jurisdiction includes that formerly exercised by the Federal Court of Bankruptcy and the Australian Industrial Court. Further, original jurisdiction has been conferred by a number of Acts, the most significant being the *Federal Court of Australia* (*Consequential Provisions*) *Act* 1976.

The Federal Court of Australia has appellate jurisdiction with respect to judgments of the Court constituted by a single judge; judgments of the Supreme Courts of the Territories; and, in certain circumstances provided for by legislation, with respect to judgments of State courts other than those of the Full Court of a State Supreme Court (e.g. *Patents Act* 1966, *Trade Marks Act* 1955, *Bankruptcy Act* 1966, *Income Tax Assessment Act* 1936).

Australian Industrial Court and Federal Court of Bankruptcy

The hearing of matters which had commenced in these courts at 1 February 1977 continues to be dealt with by these Courts. Subject to this, the respective jurisdictions formerly exercised by these Courts is now vested in the Federal Court of Australia and each of the Courts is to be abolished when there ceases to be a person holding office as a Judge of the Court.

Family Law

The *Family Law Act* 1975 commenced operation on 5 January 1976. It introduced a new law dealing with human problems in marriage, viz. the custody and welfare of the children, divorce, maintenance and the split up of property of the marriage.

The law is administered by the Family Court of Australia and by certain other courts in the States and Territories. A State Family Court has been established in Western Australia to administer family law in that State.

Under the Act, great emphasis is placed on the counselling services available through the family courts to persons involved in proceedings and to any persons who have encountered marriage problems. It is not necessary to start proceedings to make use of these services.

The Act provides that there is only one ground for divorce—that of irretrievable breakdown of a marriage. Irretrievable breakdown of a marriage is established under the law if the husband and wife have separated and have lived apart from each other for 12 months and there is no reasonable likelihood of reconciliation. The main change made by the Act is that fault is no longer taken into account as a ground for divorce.

The Family Court of Australia

Applications can be made to the Family Court of Australia for custody and maintenance even if a divorce is not sought. People may approach the Court for counselling (and help) with regard to their marital problems whether or not they are contemplating proceedings for divorce or other relief.

The judges of the Family Court are chosen because of their suitability to deal with matters of family law by reason of their training, experience and personality. They do not wear wigs and gowns and have a competent back-up staff attached to the Court to assist them.

In dealing with a marriage problem, the Family Court is guided by the following principles:

- the need to preserve and protect the institution of marriage as the union of a man and a woman to the exclusion of all others voluntarily entered into for life;
- the need to give the widest possible protection and assistance to the family as the natural and fundamental group unit of society, particularly while it is responsible for the care and education of dependent children;
- the need to protect the rights of children and to promote their welfare; and
- the means available for assisting parties to a marriage to consider reconciliation or the improvement of their relationship to each other and to the children of the marriage.

The same principles apply to all courts exercising jurisdiction under the Family Law Act. Proceedings under the Act in the Family Court are heard in private, and no publicity about any proceedings under the Act is permitted.

Counselling

The Family Court aims to be a 'helping' court. A Principal Director of Court Counselling and a staff of court counsellors are attached to the Court to help parties to a marriage settle their problems. Their help is available to parties who are not even contemplating divorce or other proceedings, but who may need counselling assistance. These services complement those already provided by voluntary marriage counselling agencies. People may approach the Court counselling service directly—in person, in writing or by telephone—or through a legal advisor.

Children

The Family Court has the special task of protecting and promoting the welfare and rights of dependent children. The paramount consideration guiding the Court in all custody proceedings is the welfare of the children. Further, a divorce decree will not become effective unless the Court is satisfied that proper arrangements have been made by parties for the welfare of their children.

A feature of the Act is that, in the absence of any court order, both parents of a child have joint custody of the child as a matter of law. However, one parent can ask the Court for sole custody of a child. In disputes over custody, the child may be separately represented. The wishes of children over 14 in such disputes must be taken into account unless there are special circumstances.

Maintenance

The right to maintenance under the Act is based on the needs of the party seeking it and the ability of the other party to pay. There are specific matters for the Court to consider when it is dealing with maintenance applications. These include:

- the age and state of health of each of the parties;
- the income, property and financial resources of each of the parties and their financial obligations;
- whether either party is entitled to a pension or superannuation;
- the length of the marriage and what is an appropriate standard of living for each party;
- whether persons seeking maintenance have to care for children;
- the extent to which a marriage has affected the earning capacity of the marriage partners; and
- the possibility of the persons concerned taking on training courses or further educational courses to improve employment prospects.

Both parties are liable to maintain their children according to their respective means and the Court is guided by similar considerations in deciding what order to make.

Matrimonial Property

The Court has power to settle disputes about the family assets, including the power to order a transfer of legal interests in property. When dealing with these disputes, the Court considers the interest each of the parties has in the property and the contribution made during the marriage. The Act directs the Court to look at the financial contributions made by the parties and at the contribution made by either party in the capacity of homemaker or parent.

Legal Assistance

Specific provision is made in the Act for legal assistance to be given by the Australian Legal Aid Office to persons who are assessed to be unable to afford legal representation.

The Court has pamphlets printed in English, Arabic, Finnish, German, Italian, Serbo-Croat, Spanish and Turkish to explain the operation of the new Family Law.

Legal Aid

Australian Legal Aid Office

The Australian Legal Aid Office was established by the Australian Government in July 1973. It provides a general problem-solving service of legal advice for persons with an element of need. Each person seeking help from the Office is seen by a lawyer, the problem is identified and advice is given. Further assistance, including assistance in litigation, is available in matters arising under Federal law, including family law, to all persons, and in matters arising under State or Federal law to persons for whom the Australian Government has a special responsibility such as those in receipt of social services, Aboriginals, ex-servicemen, students and newcomers to Australia. The assistance is provided by lawyers of the Office or by referral to private legal practitioners.

The criteria for the provision of further assistance are the merit of the applicant's case and the financial position of the applicant, i.e. whether he satisfies the means and needs test of the Office. In considering the merits, regard is had to all the circumstances, particularly to any advantage the applicant might gain from the provision of assistance and any disadvantage he might suffer if assistance is refused, and the likelihood that the proceedings will be terminated by a decision, settlement or otherwise so as to result in a proper and just advantage to the applicant. The means and needs test is the inability of the applicant to afford the cost of representation in the particular case. A system of contributions by applicants towards the cost of assistance has been in operation since August 1975.

The Office operates in New South Wales, Victoria, Queensland, Tasmania and the Northern Territory: there is a branch in each of those State and Territory capital cities, and there are twenty-five regional offices in suburban and provincial centres. On 30 June 1979 the Office employed 108 lawyers and 153 supporting administrative staff. The lawyers provide advice at interview to approximately 10,000 persons each month; further assistance is provided by the lawyers or by referral to private legal practitioners to an average of 4,700 persons each month.

The policy of the Commonwealth Government is for State and Territory legal aid commissions to be established which will absorb the functions of the Australian Legal Aid Office throughout Australia. Commissions have commenced operations in South Australia, Western Australia and the Australian Capital Territory, and are expected to do so in Queensland and Victoria shortly.

Administration of the Law

There have been a number of important developments in the field of the administration of the law:

Australian Law Reform Commission

In 1973 the Australian Government established the Australian Law Reform Commission to reform, modernise and simplify Australia's laws. The Attorney-General makes a reference to the Commission on matters requiring attention and, after examination and study, the Commission reports its findings to the Federal Parliament. The Commission has worked in close association with State law reform bodies and with similar agencies overseas.

Since starting formal operations at the beginning of 1975, the Commission has undertaken law reform studies in criminal investigation procedures; complaints against the police; alcohol, drugs, and driving; the legal protection of privacy; defamation; consumers in debt; insurance contract law; the law on organ transplants; the use of Aboriginal customary law in the Australian legal system; the right of access to civil proceedings; the provision of the *Lands Acquisition Act* 1955; and sentencing submissions. Legislative action has been initiated following reports on some of these references.

Administrative Appeals Tribunal

The Administrative Appeals Tribunal was established by the *Administrative Appeals Tribunal Act* 1975 and came into operation on 1 July 1976. The function of the Tribunal is to review on the merits decisions made in the exercise of statutory powers where jurisdiction has been specifically vested in the Tribunal by statute. The Tribunal now has jurisdiction in respect of decisions made under over 70 statutes. Further additions to the Tribunal's jurisdiction are made from time to time.

The Administrative Review Council was also established under the Administrative Appeals Tribunal Act. The Council's functions include reviewing decision-making processes and the practices and procedures of administrative review bodies, such as tribunals or courts. The Council may make recommendations to the Attorney-General on any improvements in those areas that it considers might be made.

Administrative Decisions (Judicial Review) Act 1977

The *Administrative Decisions (Judicial Review) Act* 1977, which has yet to be proclaimed, provides judicial review in the Federal Court of Australia of administrative actions under statutes to which the Act applies. The Court's role is limited to reviewing the lawfulness of the action in question where application is made by a person aggrieved thereby. A person entitled to seek judicial review in respect of an administrative decision may seek a statement of reasons for the decision from the decision-maker.

Commonwealth Ombudsman

The Office of the Commonwealth Ombudsman was established in mid-1977. The Ombudsman is empowered to investigate complaints concerning the administrative actions of Commonwealth Government Departments, statutory bodies and other authorities. Where the Ombudsman is of the opinion, after an investigation is completed, that an administrative action involved maladministration he is required to report to the body concerned and may include in his report any recommendations he thinks fit to make. In the event of a failure to comply with a recommendation contained in a report made by the Ombudsman, the Ombudsman may report to the Prime Minister and to the Parliament.

Bankruptcy

For a description of the provisions of the *Bankruptcy Act* 1966, *see* Year Book No. 55, Pages 586–7. The Bankruptcy Act was amended in 1970 to remove any obstacle the Act might present to the operation of compositions or schemes of arrangement entered into under State or Territory legislation providing assistance to farmers in respect of their debts.

The following table shows the number of bankruptcies of the various types together with the disclosed assets and liabilities of the debtors. Details for each State are published in the Annual Report by the Minister for Consumer and Business Affairs on the operation of the Bankruptcy Act.

BANKRUPTCY PROCEEDINGS: AUSTRALIA

Year		*Bankruptcies and orders for administration of deceased debtors' estates*	*Compositions*	*Deeds of assignment*	*Deeds of arrangement*	*Total*
1973–74	Number	1,637	54	110	63	1,864
	Liabilities $'000	17,194	1,196	3,569	2,280	24,241
	Assets $'000	5,970	646	2,364	1,307	10,288
1974–75	Number	2,061	63	128	80	2,332
	Liabilities $'000	33,788	1,693	15,776	2,742	53,999
	Assets $'000	13,529	1,069	5,129	2,034	21,761
1975–76	Number	1,900	67	118	92	2,177
	Liabilities $'000	48,829	8,969	6,374	15,823	79,995
	Assets $'000	14,188	490	3,864	11,667	30,209
1976–77	Number	2,196	72	109	75	2,452
	Liabilities $'000	48,862	6,996	6,409	15,130	77,397
	Assets $'000	20,936	723	4,389	9,947	35,995
1977–78	Number	3,134	75	163	89	3,461
	Liabilities $'000	74,723	12,061	9,551	6,042	102,377
	Assets $'000	27,524	646	5,152	2,521	35,843
1978–79	Number	3,857	137	255	168	4,417
	Liabilities $'000	93,388	5,460	14,554	14,249	127,651
	Assets $'000	25,394	1,184	6,690	6,073	39,341

Patents, Trade Marks and Designs

Patents

Patents for inventions are granted under the *Patents Act* 1952, which applies to Australia and to the Territory of Norfolk Island and which is administered by the Commissioner of Patents.

PATENTS: AUSTRALIA

	1973	*1974*	*1975*	*1976*	*1977*	*1978*
Total applications	16,460	15,950	14,082	14,117	14,246	15,229
Applications accompanied by provisional specifications	4,354	4,036	4,250	4,214	4,248	4,319
Letters patent sealed	11,670	12,828	12,161	11,074	9,636	9,038

Trade marks and designs

Under the *Trade Marks Act* 1955, the Commissioner of Patents is also Registrar of Trade Marks. Provision is made for the registration of users of trade marks and for their assignment with or without the goodwill of the business concerned. Under the *Designs Act* 1906 the Commissioner of Patents is also Registrar of Designs.

TRADE MARKS AND DESIGNS: AUSTRALIA

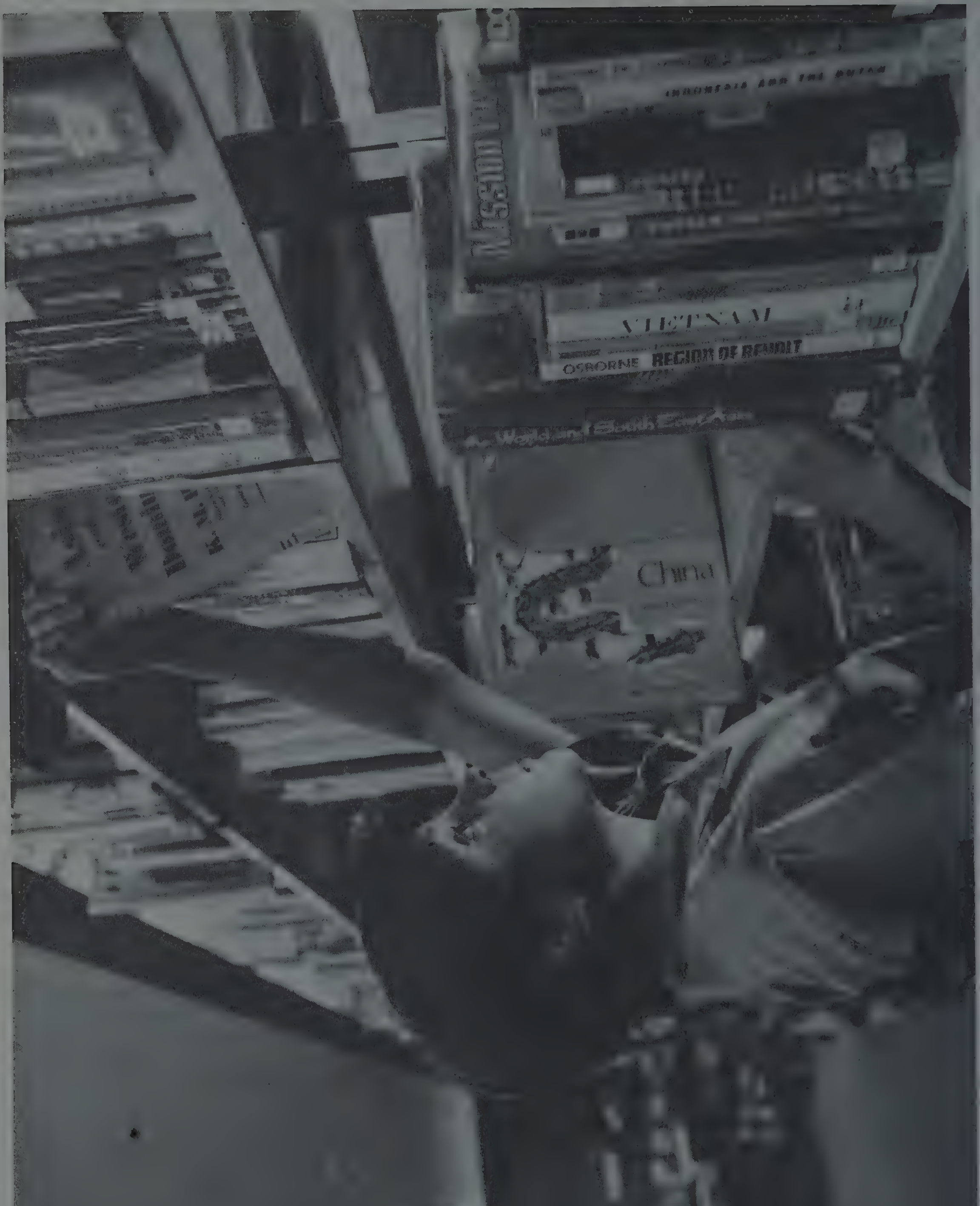
	1973	*1974*	*1975*	*1976*	*1977*	*1978*
Trade marks—						
Received	10,026	9,209	9,046	10,195	10,888	11,001
Registered	5,665	5,303	7,087	4,941	4,881	4,243
Designs—						
Received	2,115	1,991	2,105	2,571	2,695	3,170
Registered	1,732	1,570	1,733	1,519	2,290	2,336

Copyright

Copyright is regulated by the Commonwealth *Copyright Act* 1968–1973, which came into force on 1 May 1969. On that date Australia ratified its adherence to the Brussels revision of the Berne Copyright Convention and to the Universal Copyright Convention whereby citizens of member countries are accorded protection by complying with the convention formality requiring proprietors to place on their works the symbol © together with their name and the year of first publication in such a manner and location as to give reasonable notice of their claim of copyright in the works so identified. The new legislation contains no provision for the registration of copyright, and the Copyright Office ceased to exist on 1 May 1969. Copyright is administered by the Attorney-General's Department.

CHAPTER 12

EDUCATION


INDONESIA AND THE DUTCH
Mission
VIETNAM
OSBORNE REGION OF REVOLT
The World and South East Asia
China

CHAPTER 12

EDUCATION

State and Commonwealth Government responsibilities in education

Under the Australian Constitution, education is a responsibility of State Governments, although the Commonwealth Government is responsible for education in the Australian Capital Territory, Norfolk Island, Christmas Island and the Cocos (Keeling) Islands. On 1 July 1979, responsibility for education in the Northern Territory passed from the Commonwealth Government to the Northern Territory Government.

The State Governments administer their own systems of primary, secondary, and technical education through government departments responsible to State Ministers. In each State except New South Wales and South Australia, a single Education Department is responsible for these three levels of education. In New South Wales and South Australia the Education Department concentrates on primary and secondary education and a separate department is responsible solely for technical and further education. The Commonwealth and Northern Territory Governments provide similar education services in the Australian Capital Territory and the Northern Territory. Universities and colleges of advanced education in Australia are autonomous institutions established under acts of the appropriate parliament.

Detailed information on the education systems of the States may be found in the respective State year books. Chapter 27 of this Year Book provides details of the situation in the mainland and external Territories.

General characteristics of schools

Compulsory education

School attendance is compulsory throughout Australia between the ages of 6 and 15 years (16 years in Tasmania), but many States accept children below the age of 6. In all States and Territories the opportunity for four year olds to attend pre-school is becoming more widely available.

The Education legislation in each State and Territory requires that all children between the prescribed ages must attend either a government school or some other recognised educational institution. In 1978, over 638,000 students attended non-government schools, of which about 80 per cent attended Catholic schools. The organisation of Catholic primary schools is largely diocesan; Catholic secondary schools are either diocesan or administered by religious orders. Most other non-government schools are under the auspices of, or are actually run by, other religious denominations. Non-government schools must meet certain standards determined by the States or Territories in which they are located. In most States and Territories they cannot be opened, or continue to operate, unless they are registered. Registration is normally dependent upon certification that the school has satisfactory premises and provides regular and efficient instruction.

Funding of schools

Education at all government primary and secondary schools in Australia is free. Each State provides the major portion of funds for its own school system from its general revenue funds. The other source of funds is the Commonwealth Government's Schools Commission. The non-government schools draw funds from private sources and also receive Government financial assistance (both State and Commonwealth). For further details, *see* Expenditure on education, page 288.

School organisation and operation

Students in Australia generally proceed from a primary school to a secondary school within their own locality. Primary schools and secondary schools are usually separate institutions. Pre-schools are also normally separate institutions, although some are attached to or near the local primary school. In small towns and communities there are sometimes area or central schools which provide both primary and some secondary schooling, though not necessarily to Year 12 level. In Tasmania and the Australian Capital Territory, the final two years of secondary schooling in the Government system are provided at separate colleges.

The majority of government schools in Australia are comprehensive and co-educational. All schools with both primary and secondary enrolments (mainly area or district schools in rural areas), all but a few primary schools, and over four-fifths of secondary schools are co-educational. Under the present policies of school authorities, it is unlikely that any new government single-sex schools will be established.

The situation in non-government schools is different. Approximately two-thirds of non-government secondary schools, and about one half of those with primary schools attached to them, are single-sex. This situation is changing, with the number of single-sex schools decreasing in recent years.

Australian schools generally operate between approximately 9 a.m. and 3 p.m. for three terms between early February and mid-December. Most schools are constructed around the traditional classroom, although there is a trend towards the provision of some open plan or flexible learning spaces. Schools usually also provide library and sporting facilities.

Generally, schools in Australia now have a considerable degree of autonomy. In recent years most State education departments have established regional administrations which are responsible for matters such as planning school buildings and deploying staff, and a central curriculum unit which provides general guidelines on course planning. In some systems these guidelines are more prescriptive than in others. In general, individual schools offer options and determine teaching and learning approaches within the guidelines and within the limitations of available resources and the aptitudes and interests of their students. Usually parent associations are attached to each school, and there has been encouragement of greater community participation in general decision-making at school level through representation on school councils and boards which are being established in some systems to take some responsibility for school planning and policy formulation.

Schools usually provide educational or vocational counselling through an attached or visiting teacher. Many schools also provide special facilities or teachers to assist migrant children, especially where the schools are located in areas of high migrant density. In all States and the Northern Territory there are special Commonwealth funded education projects designed to assist Aboriginal school children. Notable among these is the widespread use of Aboriginal teacher aides, and bilingual programs in a number of Aboriginal communities where the children's first language is an Aboriginal language.

Pre-school education

Pre-schools were first established by voluntary organisations and a large number are still operated by them with State and Commonwealth financial assistance. Departments of Education in four States and the two Territories are responsible for the administration of pre-school centres. In New South Wales the Department of Education shares the responsibility with welfare authorities, and in Victoria the Department of Health has the complete responsibility for pre-school services.

In recent years most States have announced a commitment to provide pre-school education for all children and therefore Government pre-schools have been increasing more rapidly than those provided by voluntary organisations. In addition, special Commonwealth Government funding has helped to promote a considerable expansion of pre-school facilities for Aboriginal children throughout Australia.

There is no prescribed pre-school curriculum but some States have developed guidelines where the pre-school centre is an integral part of the primary school system. Most teachers working in pre-school centres provide a play-based program with some emphasis on the development of concepts associated with language, science and music. In most States pre-schools operate on a half-day sessional basis and thus accommodate two and sometimes three different groups of children each week.

In 1978, the Australian Education Council (AEC) set up a working party to report on present policies and arrangements for pre-school education in Australia and to consider the funding of pre-school education. The Working Party presented its Report to the October 1979 meeting of the AEC.

Primary and secondary education

A generalised description of the basic subjects and teaching methods at each level follows.

Primary schools

In the lower primary years the main emphasis is on the development of basic language and literacy skills, simple arithmetic, moral and social education, health training and some creative activities.

In the upper primary years there is development of the skills learned in the earlier years. English, mathematics, social studies, science, music, art and craft, physical education and health are studied. There are also optional subjects such as religious instruction and, in some schools, foreign languages and instrumental music.

Students in Australian primary schools usually have the one class teacher for all subjects, though in schools where open plan learning styles have been adopted, the method of team teaching is often practised. Promotion is generally annual, with peers being promoted on age not achievement, though there has been increasing interest in multi-age grouping.

Secondary schools

In some systems the first one or two years of secondary school consist of a general program which is followed by all students, although there may be some electives. In later years a basic core of subjects is retained with students being able to select additional optional subjects. In other systems students select options from the beginning of secondary school.

The core subjects in all systems are English, mathematics, science and, usually, a humanities or social science subject. Optional subjects may include a foreign language, a further humanities or social science subject, commerce, art, music, home arts and craft, a manual arts subject, or agriculture. Some schools offer optional courses in subjects such as consumer education, conversational foreign languages, shorthand, typewriting, road safety, drama and leisure-time activities.

In senior secondary years a wider range of options is available in the larger schools and there is an increasing trend towards encouraging individual schools to develop courses suited to the needs and interests of their students, subject to accreditation and moderation procedures.

Victoria is the only State which retains a system of secondary technical education. These schools offer a wide range of elective technical subjects. In the Northern Territory three Aboriginal residential colleges assist Aboriginals to participate in secondary education.

Students in Australian secondary schools generally have different teachers for each separate subject area, though, like primary schools, variations may occur where open planned or more flexible methods have been adopted. Promotion is, again, generally chronological, but students may be grouped according to ability after an initial period in unstreamed classes.

Examinations and assessment at each level are carried out by individual schools except in Year 12 in the systems which have retained external examinations at Year 12 level. Students attaining the minimum school leaving age may leave school and seek employment, or enrol in a vocationally oriented course in a technical and further education (TAFE) institution or a private business college. For many TAFE courses, completion of Year 10 of secondary school is a minimum entry requirement. For those continuing to the end of secondary school (Year 12), opportunities for further study are available in TAFE institutions, universities, colleges of advanced education and other post-school institutions. The latter include non-government teachers colleges and a few single purpose institutions such as the Australian Film and Television School, the Australian Maritime College and the National Institute of Dramatic Art.

Students' eligibility for entry to universities and colleges of advanced education is assessed during, or at the end of, the final two years of secondary schooling. In Victoria the standard basis for admission to higher education is public examination results. Four other States and the Northern Territory use different combinations of school assessment and public examinations. In Queensland and the Australian Capital Territory eligibility to enter higher education is determined from moderated and standardised school assessments. Several education systems are currently reviewing their senior secondary school assessment procedures.

Other schooling arrangements

Children may be exempted from the requirement of compulsory attendance if they live too far from a school or suffer a physical disability. These children usually receive correspondence tuition. Special schools are available in larger centres for socially, physically and mentally handicapped children in cases where they are not catered for in special or regular classes in ordinary schools.

In addition to correspondence tuition there are other provisions for children in isolated areas. Schools of the Air operate in New South Wales, South Australia, Queensland, Western Australia and the Northern Territory. Schooling for the children of Aboriginal groups in remote areas of the Northern Territory is conducted by Aboriginal teaching assistants supported by visiting teachers from established schools. Increasing numbers of Aboriginals are now being trained as fully qualified teachers. Special education is provided by State Governments, although in all States and particularly in New South Wales, Queensland and Victoria, parents have formed voluntary organisations to establish additional schools catering for their children's special needs. The Commonwealth Government, through its Schools Commission, provides funds to State authorities to assist in the upgrading of special education facilities.

Boarding facilities are available at some non-government schools in the larger towns and cities. Some government schools, in particular those catering for special groups such as Aboriginals, have residential hostels close by.

Post-secondary education

Technical and further education (TAFE)

Like primary and secondary schools, TAFE institutions operate from early February to mid-December, in either three terms or two semesters depending on the institution.

The major part of technical and further education in Australia is provided in government administered institutions variously known as colleges, schools, or centres of technical or further education. There is also some TAFE provision in some colleges of advanced education, agricultural colleges and adult education authorities. These institutions are spread widely throughout Australia in both metropolitan and rural areas. They vary greatly in size and in the scope of their educational provisions, though the largest tend to be located in metropolitan regions.

Each of the States provides the bulk of the finance for its own institutions. The Commonwealth Government provides supplementary funds to the States on the basis of recommendations from the Tertiary Education Commission.

Government TAFE institutions offer an extremely wide range of vocational and non-vocational courses. The majority of students are part-time and employed. About 5 per cent of students are enrolled in full-time courses and a further 6.4 per cent of students are external. Apprenticeship and related trade courses constitute about one-fifth of TAFE enrolments. There are also large numbers of other vocational courses for persons not indentured in a trade. These include many certificate courses for prospective technicians and persons engaged in para-professional occupations, particularly in the manufacturing and service industries, and wide range of courses designed to supplement previous training or to provide specialised instruction in particular aspects of job skills. Other courses offered are those providing pre-vocational training to persons prior to their entry into employment, and preparatory or bridging instruction to persons whose educational experience is not sufficient to permit direct entry to a chosen vocational course.

Government TAFE institutions are also major providers of adult education courses of the personal interest, leisure or general enrichment kind. More than one-quarter of TAFE students are enrolled in courses of this kind.

There are some non-government bodies which offer technical and further education of a non-apprenticeship nature. Business colleges offer courses in secretarial studies, while agencies such as the Workers Educational Association and a range of voluntary groups help meet adult education needs in the community.

Colleges of advanced education

Colleges of advanced education normally operate over three terms or two semesters, beginning in early to late February and running to mid-December. Students commencing courses will have completed a full secondary education, or will have demonstrated that they have a high probability of successfully completing a course. There are quotas on new enrolments at many of the larger colleges. Although there are usually provisions for mature-age entry, the majority of students proceed straight from school. Approximately 53 per cent of students were enrolled as full-time students in 1979.

In 1979, there were seventy colleges of advanced education. Some are large diversified or multi-vocational institutes, others are small single-purpose colleges. Some colleges specialise in agriculture, art or teacher education. About one third of colleges have enrolments below 1,000 students. All colleges are funded by the Commonwealth Government. Advanced education level courses are also provided by some TAFE institutions.

The principal purpose of the colleges is to provide tertiary education oriented towards practical training and industrial and social needs. The colleges aim to equip students so that immediately after graduation they may play an effective role in commerce, industry, the Public Service and the Arts. The colleges emphasise undergraduate teaching more than research, although some colleges also offer postgraduate level courses, either at the diploma or masters level. Most colleges have a commitment to part-time study, and many offer 'sandwich' courses, which provide a period of full-time study with associated periods of full-time employment. Some colleges also offer external courses.

The duration of a basic undergraduate course in a college of advanced education is two to three full-time years, at the conclusion of which an Associate Diploma, a Diploma or a Bachelor Degree is awarded. A great variety of courses is offered by colleges of advanced education, embracing such areas as applied science, teacher education, liberal arts, business and secretarial studies and paramedical studies.

Although teaching in colleges of advanced education is more vocationally-oriented and less theoretical or academic than in universities, the system of tuition is similar. Lectures, tutorials and seminars are organised by the institution in the subjects offered. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework.

Halls of residence are provided at some colleges of advanced education, principally those located in rural areas. These can accommodate some, but not usually all, students enrolled at those institutions.

Universities

The university year in Australia normally runs from late February or early March to mid-December over three terms or two semesters depending on the institution. Students commencing courses will have completed a full secondary education, though most universities have some provisions for admitting other persons who can demonstrate that they have a high probability of successfully completing a course. There are quotas on new enrolments in most faculties in Australian universities. Although there are usually provisions for mature-age entry, the majority of students proceed straight from school. Sixty-two per cent of students were enrolled as full-time students in 1979.

There are nineteen universities in Australia, most of which are located in the capital cities. Universities are autonomous institutions established under Acts of the appropriate parliament and financed by the Commonwealth Government. The basic undergraduate course in most disciplines is three or four full-time years in duration, at the conclusion of which a bachelor degree is awarded. A further one to two years of full-time study is required for a masters degree, and three to five years for a doctoral degree. Universities also offer postgraduate diploma courses in some disciplines. All universities offer full-time and part-time courses, and some offer external studies. As well as providing undergraduate courses, Australian universities are centres of postgraduate study and research. Some universities have institutes or units involved exclusively in research and/or postgraduate teaching. In 1979, over 12 per cent of university students were proceeding to higher degrees.

Courses at Australian universities are normally organised in faculties or schools, and students generally elect to study in a number of subject areas, or departments, within a faculty or school. Universities will generally offer some, but not all, of the following courses of study: agriculture, architecture, arts, dentistry, economics, education, engineering, law, medicine, music, science, and veterinary science.

The system of tuition in universities is normally by means of lectures, tutorials and seminars organised by the institution in the subjects offered. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework. Theses are required for many postgraduate degrees.

Most universities have halls of residence on the campus which accommodate some, but not all, of the students currently enrolled. Student organisations on campus provide a wide range of sporting and social facilities for students.

Teacher education

The majority of teachers are educated in colleges of advanced education, but a substantial number of secondary teachers and a few primary teachers receive their pre-service education in a university. A few non-government teachers colleges, mostly operated by religious denominations, educate some of the teachers for non-government schools. The majority of pre-school and primary trainee-teachers undertake courses of three years' duration before commencing teaching. Most secondary trainee-teachers undertake a four year course.

The normal entry requirement for teacher education is determined by the matriculation requirements of individual universities and colleges of advanced education.

A number of teacher education scholarships or bursaries are offered by some State education authorities and, in the Australian Capital Territory and the Northern Territory, by the Commonwealth Teaching Service on a competitive basis. The proportion of students in receipt of such scholarships is declining, while the proportion relying on private finance or means-tested allowances provided by the Commonwealth Government is increasing.

The content of pre-service teacher education is determined by individual universities and colleges of advanced education. Options are available to students but, generally, the three year course for a pre-school or primary trainee-teacher includes history and principles of education, general and special methods of teaching, early childhood development and general educational psychology, as well as the subjects they will be teaching. Practice teaching is required.

Secondary trainee-teachers are generally expected to specialise in two or three subjects. These may be studied as part of an education degree in either a university or a college of advanced education, or as part of another degree to be followed by a postgraduate diploma in education. As part of their pre-service education, secondary trainee-teachers generally take courses in history and principles of education, comparative education, educational psychology and teaching methods. Practice teaching comprises part of the courses.

All education systems provide opportunities for in-service training. Generally, there are two types of in-service training: assistance to teachers to upgrade their formal qualifications by providing various forms of study leave or study assistance; and 'less formal' in-service education through the organisation of a large number of short-term workshops, seminars and conferences. In each State many of these 'less formal' activities are co-ordinated by a joint committee of representatives of teachers and of government and non-government schools. Also with the assistance of funds from the State Government and the Schools Commission, teachers directly organise many of their own in-service education activities through a number of teachers' centres in each State.

Migrant education

The Commonwealth Government has responsibility for migrant education for which State governments are also contributing resources, particularly in school level programs. Opportunities are provided for school-age and adult migrants from non-English speaking backgrounds to learn the English language and to assist in their integration into the Australian community.

Child migrant education

In most States migrant children are taught English as a second language in 'withdrawal' classes, where migrant children are brought together for certain periods a week for the teaching of basic communication skills in English. States are increasingly adopting other approaches to teaching English as a second language, including bilingual programs and language assistance within the general classroom. Generally, there has been recognition of the need to provide multicultural education which acknowledges migrant identity and self-esteem in the general framework of Australian life.

Migrant and multicultural education at the primary and secondary levels is funded by the Schools Commission, which also provides supplementary financial assistance for schools of high migrant density and in-service training of teachers of migrant children. Payments are made to government and non-government education authorities in each State who are responsible for determining priorities and allocating funds.

Adult migrant education

The *Adult Migrant Education Program* is a national program, funded and co-ordinated by the Commonwealth Department of Immigration and Ethnic Affairs. It aims to help adult migrants and refugees from non-English speaking backgrounds learn English and obtain essential information about Australia and Australian society.

The program consists of a variety of full and part-time courses and classes including special arrangements such as English classes at the work place, the Home Tutor Scheme and English by radio and television. Enrolments in the program have increased in recent years and reached just over 105,000 in 1977–78.

The report of *The Review of Post-Arrival Programs and Services to Migrants* (the Galbally Report), published in May 1978, provided for new emphases at the initial settlement stage for adult migrants and refugees. It also provided for an increase and reshaping of on-going services for recent and earlier arrivals, including those who have completed an initial settlement course. The objectives and targets arising from the Galbally Report and accepted by the Government, have meant a strengthening and refocussing of the English language education program for adult migrants and refugees as well as a substantial increase in activity.

For the most part the courses and classes are conducted by State Governments through their Adult Migrant Education Services or Branches. A number of tertiary institutions and some community organisations also participate in the program through activities funded by the Commonwealth. These courses are available at a number of locations including migrant education centres leased by the Commonwealth in each mainland capital city, education centres in migrant hostels and other community and education facilities in suburban and some country areas.

Financial assistance

Primary and secondary education is free in government schools in all States and Territories although, particularly in high schools, nominal fees may be charged for the hire of textbooks and other school equipment. Most State governments provide financial assistance to parents for educational expenses such as these as well as for transport to and from school, and various forms of scholarship, bursary, boarding and clothing allowances. Many of these forms of assistance are specifically intended to assist low income families.

Post-secondary education (in institutions of technical and further education, colleges of advanced education and universities) has been free since the beginning of 1974.

At the national level, the Commonwealth Government, through its Department of Education, provides a number of schemes of assistance for Australian students to facilitate access to education, particularly at the upper secondary and post-secondary level. A brief description of these schemes follows:

- The *Secondary Allowances Scheme* aims to help parents with a limited income to keep their children at school for the final two years of secondary education.
- The *Adult Secondary Education Assistance Scheme* provides assistance for mature-age students undertaking full-time final year of matriculation studies.
- The *Assistance for Isolated Children Scheme* provides special support to families in isolated areas for the education of their children. This scheme also provides funds to assist parents of handicapped children who need to live away from home to attend a special school.
- The *Aboriginal Secondary Grants Scheme* is intended to encourage Aboriginal and Torres Strait Islander students to remain at secondary school to extend their education.
- The *Aboriginal Study Grants Scheme* provides Aboriginals and Torres Strait Islanders with opportunities to undertake study after leaving school.
- The *Tertiary Education Assistance Scheme* is a means-tested scheme to assist students enrolled for full-time study in approved courses at institutions of technical and further education, colleges of advanced education, universities and other tertiary institutions in Australia.
- *Postgraduate Awards* are competitive awards for full-time postgraduate research and coursework at universities and colleges of advanced education.
- *Awards for Overseas Study* provide opportunities for Australians to study overseas. Some of the major awards are the *Commonwealth Scholarship and Fellowship Plan,* the ANZAC *Fellowships,* the *Australian-American Educational Foundations Awards,* the *Confederation of British Industry Awards,* and scholarships from the Chinese, French, German and Japanese governments. Most of these awards are at the postgraduate level. There are also overseas study awards offered exclusively to Aboriginals and Torres Strait Islanders.

In addition, the States offer various schemes of assistance at the primary and secondary level; some are paid directly to the schools, others to the student or the student's parents. Many of these awards are intended to offset the cost of books, to enable students to attend special schools, or to assist students in remote areas who need to live away from home or to travel long distances to attend school.

Some universities have a small number of scholarships or other forms of assistance to enable students to undertake tertiary study. Some of these awards are at the postgraduate level, and some are for study overseas. Some non-government schools also offer scholarships and bursaries to assist students.

Administrative structure of education at the national level

As mentioned at the beginning of this chapter, the Commonwealth Government has direct responsibility for education only in the Australian Capital Territory and the external Territories; the Northern Territory Government having assumed responsibility for education in the Territory from 1 July 1979. (*See* relevant State Year Books for a description of State administrative structures.) The Commonwealth Government, however, has special responsibilities for the Aboriginal people and for migration, as well as the power to provide assistance for students. Moreover, the Commonwealth Government is responsible for international relations in education. Accordingly, the Commonwealth Department of Education deals with the administration of schemes of student assistance, international education, some aspects of migrant education, language teaching and Aboriginal Education. The Department also liaises with the media and community groups, and produces a range of publications relating to education in Australia, e.g. *Directory of Higher Education Courses, Education News* and *Hemisphere*, an Asian-Australian monthly.

The Department provides a secretariat for the Organisation for Economic Co-operation and Development (OECD) Advisory Committee on Education and co-ordinates Australia's involvement in the OECD education research activities under the Centre for Educational Research and Innovation (CERI). As well, the Department provides a secretariat for the Australian National Commission for the United Nations Educational, Scientific and Cultural Organisation (UNESCO) which has a specialist Education Committee. The Department also provides a service for other government departments, educational institutions and employing authorities in the assessment of educational qualifications obtained overseas, and is responsible for the supervision of private overseas students studying in Australia.

The Australian Constitution empowers the Commonwealth Government to make grants to the States and to place conditions upon such grants. This power has been used to provide financial assistance to the States specifically for educational purposes. There are two national education commissions which advise the Commonwealth Government on the needs of educational institutions throughout Australia for the purposes of financial assistance: the Schools Commission, which was established in 1973; and the Tertiary Education Commission, which was established in 1977 to replace three former commissions—the Universities Commission, the Commission on Advanced Education and the Technical and Further Education Commission. The Tertiary Education Commission comprises a Commission, which is concerned with co-ordination and intersectoral matters, and three Councils on universities, advanced education and technical and further education.

Generally, the Commissions are required to consult with State authorities (and, in the case of the Schools Commission, with the authorities conducting non-government schools) and such other persons, bodies and authorities as they think necessary before making recommendations to the Commonwealth Government on the amount of financial assistance required, both in general and for specific purposes, to meet the needs of each sector.

The needs for financial assistance for pre-school and child care facilities are considered at the national level by the Office of Child Care within the Commonwealth Department of Social Security.

Commonwealth Government education authorities also function as co-ordinating agencies for joint activity by the States and Territories in a number of fields.

- The *Australian Council on Awards in Advanced Education* seeks, in consultation with State co-ordinating bodies, to establish consistency in awards in advanced education by establishing, maintaining and publishing a register of such awards.
- A national *Curriculum Development Centre* was established in 1973 by the Commonwealth Government with the co-operation of the States to produce, promote research into, and disseminate information about school curricula and school educational matters. The Curriculum Development Centre has responsibility for the National Committee on Social Science Teaching, the National Committee on English Teaching, and the Asian Studies Co-ordinating Committee, and has funded a number of projects such as the Social Education Materials Project (SEMP).

A number of other bodies at the national level have an important co-ordinating, planning or funding role.

- The *Australian Education Council,* comprising the Commonwealth and State Ministers for Education, meets at least once each year as a consultative body to consider matters of mutual interest, such as the material and personnel needs of schools and co-operation in educational developments generally. It is assisted by a Standing Committee consisting of senior officials including the Directors-General of Education in each State and the Secretary of the Commonwealth Department of Education.
- The *Conference of the Directors-General of Education* also meets annually. Matters discussed and decisions reached at the Conference have a direct influence in each State and Territory on such matters as pre-service and in-service education of teachers, school staffing, curricula, special education, building programs, administrative procedures and the extent of uniformity and diversity between education systems. Under the auspices of the Directors-General Conference, regular meetings of senior specialist personnel are held.

The Commonwealth Government also has an important role in the encouragement and financing of educational research, which is principally carried out in universities, colleges of advanced education and in State and Commonwealth Departments of Education.

- The *Education Research and Development Committee* (ERDC), established in 1970 as the Australian Advisory Committee on Research and Development in Education (AACRDE), is an advisory committee to the Commonwealth Minister for Education. It co-ordinates educational research funded within the Minister's portfolio, provides advice on priorities in educational research and disseminates information on completed research and research in progress which it has funded. The Committee also administers a scheme for providing training for educational researchers.
- The *Australian Council for Educational Research* (ACER) is an independent national research organisation. The Council is funded by annual grants from each of the State governments and the Commonwealth Government, as well as from its own activities. The Council is involved in its own and contract research in co-operation with education systems and plays a central role in the development, production and distribution of tests and other measuring instruments, and on research into teaching and learning, and into the broad foundations of education. The ACER acts as the Australian national centre for the program of international surveys of student achievement conducted by the International Association for Evaluation of Education Achievement (IEA).

There are also a number of non-government organisations which have a co-ordinating role in education at the national level. These include the *National Catholic Education Commission,* the *National Council for Independent Schools,* the *Australian Vice-Chancellors' Committee,* the *Australian Conference of Principals of Colleges of Advanced Education* and the *Australian High School Principals' Association.* Teachers at various levels have national organisations, as do some community and parental groups. The Australian Union of Students is a national organisation for tertiary students. (For further details *see* the *Commonwealth Education Directory,* published by the Commonwealth Department of Education).

Major current issues in education

Some of the major initiatives taken in education at the national level are discussed below. (*See* relevant State Year Books for a description of State issues).

The Committee of Inquiry into Education and Training

The Committee of Inquiry into Education and Training was established by the Government in September 1976. The Committee comprised distinguished representatives of education, employer and trade union interests under the chairmanship of Professor B. R. Williams, Vice-Chancellor of the University of Sydney.

The Report of the Williams Committee was tabled, on 22 March 1979, in Federal Parliament by the Prime Minister. It constituted the most comprehensive examination ever undertaken in Australia into the provision of education facilities and services for individual development and into the relationship between the education system and the labour market. The Report consisted of 3 volumes and contained in excess of 100 recommendations.

The Government established a Committee of Ministers to co-ordinate the consideration of the Report. The Committee of Ministers was chaired by the Commonwealth Minister for Education. Wide ranging discussion and consultation on the Report and its recommendations took place. Commonwealth and State Ministers of Education discussed the Report at meetings of the Australian Education Council. This resulted in the Council agreeing upon new arrangements for post-secondary education to improve consultation between the Tertiary Education Commission and the States, the establishment of a National Centre for Research and Development in TAFE and the development of a national monitoring program of literacy and numeracy in Australian schools. Council also endorsed the need for a comprehensive policy on transition from school to work.

The Commonwealth's response to the Report was announced on 22 November 1979 in Federal Parliament by the Minister for Education. The Government decided that the following policy objectives will guide its responses:—

- qualitative improvement of the TAFE sector;
- strengthening the teaching of basic skills in schools;
- facilitating the transition of young people from school to work including the development of a comprehensive policy for youth in transition;
- improving the quality and availability of labour market information;
- improving skills training arrangements;
- strengthening and concentrating research in universities;
- continuing monitoring and adjustments of the education system.

Initiatives that are being taken include:—

- a Commonwealth contribution of half of the agreed annual cost of the National Centre for Research and Development in TAFE and of the national program of monitoring literacy and numeracy;
- a Commonwealth contribution of $25 million in 1980 rising to $40 million in 1984 to the Commonwealth/State transition education program. Part of these funds are specifically earmarked for an immediate expansion of pre-apprenticeship and pre-vocational training;
- the establishment of a Bureau of Labour Market Research within the Department of Employment and Youth Affairs.

Supply of and demand for teachers

The effects of fiscal constraints, reduced rates of wastage and a levelling off in pupil enrolments combined in the mid-nineteen seventies to reverse a long established shortage of teachers. In 1976, the Australian Education Council established a working party to assess the future trend in the supply of and demand for primary and secondary teachers, over the period 1978–1985, for each State and for Australia as a whole. In its report, released in February 1978, the working party confirmed that substantial surpluses of primary and secondary teachers were in prospect in the years ahead (up to at least 1985). As a result intakes into pre-service courses have been substantially reduced in recent years, leading to the position where in 1979, the intake was about 22 per cent lower than the (peak) 1975 level. At the same time however there has been an increase in post-graduate enrolments at universities and in enrolments at colleges by teachers who wish to upgrade their qualifications.

Since the release of the report of the working party, teacher wastage rates have declined further during the late nineteen seventies and this has tended to increase the teacher surpluses in the short term at least. The Commonwealth and the States will continue to monitor the overall situation as well as the supply and demand situation in specialist areas of teaching.

The transition from secondary education to employment

Following the recommendations of the 1976 Report on the Transition from Secondary Education to Employment and of a 1976 review of Australian education policy by the Educational Committee of the Organisation for Economic Co-operation and Development (OECD), the Australian Education Council and the Conference of Ministers for Labour established in 1977 a Commonwealth/State Working Party on the Transition from School to Work or Further Study. The Working Party, comprising education and employment officers was asked to develop practical proposals to assist young people in their transition from school to work, with an initial emphasis on early school leavers.

The Commonwealth/State Working Party first met in July 1977 and produced its first report in October 1977. The Australian Education Council accepted the First Report and asked the Working Party to continue its investigations, with particular reference to the assessment of existing careers education programs and careers guidance services provided in the States and Territories. These services and programs were examined in the Second Report (December 1978).

In December 1978, the Australian Education Council set up a Working Party on Education and Employment comprising senior officials nominated by the State and Commonwealth Ministers for Education. This Working Party was asked to assemble information on programs being undertaken or contemplated to facilitate the transition from school to possible employment and to recommend the further development of practical action by Commonwealth and State education authorities. This Working Party reported to the June 1979 special meeting of the Council, which decided to set up a small Standing Committee on Transition Education to implement the Working Party's recommendations and to stimulate activity in the States and Territories to facilitate the transition of young people, especially early school leavers.

On 22 November 1979, the Commonwealth Ministers for Education and for Employment and Youth Affairs announced that the Commonwealth would provide additional grants to a total of $150 million over five years for a special Transition from School to Work Program involving matching contributions from the States and the Northern Territory after the first year. The Commonwealth contribution in 1980 would be $25 million rising to $40 million in real terms in 1984. These funds will provide for the development of programs, in both government and non-government schools and in TAFE colleges, for the extension and diversification of education and training. The primary concern of this Transition Program is to provide appropriate education and training courses for those 50,000 young people who leave school each year with poor employment prospects and to provide for those people at risk still in school who are likely to face similar difficulties when it comes their turn to leave.

In December 1979, discussions were being held with the States and Territories to develop proposals for funding. Such proposals were likely to include expansion of TAFE programs such as pre-apprenticeship, pre-vocational and pre-employment courses, and EPUY programs, development of alternative courses in schools for potential early school leavers, development of link courses, improved services and techniques for identifying potential early school leavers, expansion of school counsellor, vocational education and guidance services, and teacher development programs and community education projects.

Schemes introduced to assist young Australians seeking employment

The *Education Program for Unemployed Youth* (EPUY), which was introduced in July 1977, is funded by the Commonwealth Department of Education. Under this program, funds are provided to State and Territorial education authorities to develop and conduct courses for young people for whom low or inadequate levels of educational achievement form a primary barrier to their obtaining stable employment. Courses are designed to provide instruction in literacy and numeracy, to promote self confidence and to give students some basic vocational skills and a knowledge of job seeking techniques. Courses are from six to twenty weeks duration.

Persons less than 25 years of age are eligible provided that they have been registered for employment or can show other evidence of having been unemployed for not less than four of the previous twelve months, and have been away from full-time education for the same length of time and are currently registered for employment. An amount of $1.969 million was made available for expenditure on the program in 1977-78, $3.2 million in 1978-79 and $3.7 million is included in the budget for 1979-80. A total of 2,500 students undertook the EPUY course in 1977-78, 4,269 in 1978-79 and 4,370 are expected in 1979-80.

Other schemes, administered by the Department of Employment and Youth Affairs, which may assist young people in the transition from school to work are the *National Employment and Training Scheme* (NEAT), the *Special Youth Employment Training Program* (SYETP), the *Commonwealth Rebate for Apprentice Full-Time Training* (CRAFT), the *Relocation Assistance Scheme* (RAS) and the *Community Youth Support Scheme* (CYSS). (*See also* Chapter 8, Manpower.)

National Inquiry into Teacher Education

In July 1978, the Minister for Education announced the establishment of a National Inquiry into Teacher Education under the chairmanship of Emeritus Professor J. J. Auchmuty. All State Governments are co-operating in the Inquiry and the Secretariat is provided by the Commonwealth Department of Education. The first meeting of the fifteen member Committee was held in December 1978. Work continued throughout 1979 and it is expected that a report will be made in the first half of 1980.

The terms of reference for the Inquiry are both broad and detailed. They may be said to require the Committee to consider the quality of programs, not the quantitative state of teacher education. Teacher education is taken to be education for pre-school and school-level teachers but the education of teacher educators is also being examined.

Specific issues being studied include selection, pre-service programs, in-service education and the development of teachers, institutions involved in teacher education, and relationships between institutions, professional bodies, employing authorities and the wider community. The Inquiry is required to have regard to the 1979 report of the Williams Committee of Inquiry into Education and Training.

The Committee has received more than 350 submissions. All States and mainland Territories have been visited and public meetings held in capital cities and a number of regional centres. A program of research is being undertaken by Committee members, the Secretariat and commissioned consultants, assisted by some State Departments of Education. Additional information is being provided by committees in the States, the Australian Capital Territory and the Northern Territory.

Study leave in universities and colleges of advanced education

In July 1977, the Commonwealth Government asked the Tertiary Education Commission to complete the enquiries into study leave then being undertaken by the former Universities Commission and Commission on Advanced Education.

The Commission released its report on study leave in draft form in May 1978 in order to obtain comment from institutions, organisations and individuals before reporting finally to the Government. The Commission received approximately five hundred comments on the draft report, and, in addition, held a number of consultative meetings with major academic bodies and the chairmen of State co-ordinating authorities.

These representations were taken into account by the Commission in the preparation of its final report which was released in October 1978, following acceptance of its recommendations by the Government.

Major recommendations of the Commission put the granting of study leave on a selective rather than automatic basis, increased the accountability of individual staff members and institutions regarding the use of study leave, restricted eligibility to members of academic staff, and placed limits on the time spent on leave, overseas travel and the use of study leave to upgrade academic qualifications.

The recommendations are now being implemented by universities and colleges of advanced education, who have been asked to report annually to the Tertiary Education Commission on progress.

The Committee on Nurse Education and Training

Over recent years there has been increasing interest, particularly within the nursing profession and colleges of advanced education, about the possibility of professional nurse training being conducted by tertiary education institutions.

In September 1977, the Commonwealth Minister for Education, after consultation with the Commonwealth Minister for Health, established a Committee on Nurse Education and Training to inquire into and make recommendations to the Tertiary Education Commission on possible developments and changes in nurse education and training, including whether such education should take place in hospitals or educational institutions or both.

The Committee submitted its report to the Commission in August, 1978. The Government's future policy on the selection and training of nurses will be developed after consideration of advice it has received on the report from the Commission and other agencies.

Australian Maritime College

Following the passing of the *Maritime College Act 1976*, the Commonwealth Government is establishing the Australian Maritime College at Launceston, Tasmania, to train deck, engineer and radio officers as well as other maritime and fishing industry personnel.

National Aboriginal Education Committee

In the decade since the 1967 referendum widened the Commonwealth Government's responsibility for Aboriginal and Torres Strait Islander people, there has been more interest and activity in Aboriginal education than ever before. Commonwealth funds have been made available to develop programs and to help education authorities throughout the country to make special efforts for Aboriginal people at all levels of education (*see* Chapter 27, The Territories of Australia). In all these activities there has been some consultation with and involvement of Aboriginal people, but a major step forward in this direction was the establishment in March 1977 of a National Aboriginal Education Committee (NAEC).

Comprised entirely of Aboriginal and Torres Strait Islander people, the NAEC advises the Minister and Department of Education on the educational needs of Aboriginal and Torres Strait Islander people, and on appropriate methods of meeting these needs. Its advice is available to the Minister, the Department of Aboriginal Affairs and to other appropriate authorities. Its establishment marks a significant development in obtaining an effective voice for Aboriginals in policy formation at the national level. In all States Aboriginal Education Consultative Groups have been set up to advise Governments on educational policies and programs for Aboriginals.

Educational training in the Defence Force

Information on educational training in the Defence Force is contained in Chapter 4 Defence, pages 71-74 inclusive.

EDUCATION STATISTICS

For the most recent statistics available on subjects dealt with in this chapter reference should be made to the series of mimeographed publications on social statistics issued by the Australian Bureau of Statistics. These publications comprise *Schools, Australia* (4202.0), *Colleges of Advanced Education, Australia* (4206.0) and *University Statistics, Australia*, Parts 1 and 2 (4208.0, 4209.0). Financial aspects are dealt with in the annual publications *Commonwealth Government Finance, Australia* (5220.0), *State and Local Government Finance, Australia* (5504.0) and *Expenditure on Education, Australia* (5510.0). The annual reports of the respective State education departments provide detailed statistical and other information about particular States. The Commonwealth Department of Education issues publications on aspects of primary, secondary and tertiary and other post-secondary education.

NUMBER OF EDUCATIONAL INSTITUTIONS, 1978

	Schools					
	Govern-ment	*Roman Catholic*	*Other non-govern-ment*	*Uni-versities*	*Colleges of advanced education (a)*	*Teachers colleges (a)*
New South Wales	2,228	607	166	6	24	3
Victoria	2,152	475	125	4	23	1
Queensland	1,235	282	52	3	10	2
South Australia	628	102	49	2	8	—
Western Australia	659	144	43	2	6	—
Tasmania	255	37	24	1	1	—
Northern Territory	120	9	2	—	—	—
Australian Capital Territory	87	24	4	1	1	1
Australia—1978	**7,364**	**1,680**	**465**	**19**	**73**	**7**
1977	7,325	1,685	440	19	73	8
1976	7,306	1,698	440	18	83	9
1975	7,266	1,711	429	18	78	16
1974	7,295	1,731	426	17	78	17
1973	7,311	1,754	422	15	43	57

(*a*) All government teachers colleges and all kindergarten teachers colleges were colleges of advanced education by 1 July 1973 with the majority of them being reported for the first time in the college of advanced education statistical collection in 1974.

NUMBER OF STUDENTS ENROLLED AT EDUCATIONAL INSTITUTIONS, 1978

	Schools					
	Govern-ment	*Roman Catholic*	*Other non govern-ment*	*Uni-versities*	*Colleges of advanced education (a)*	*Teachers colleges (a) (b)*
New South Wales	812,156	185,688	35,075	61,748	35,260	541
Victoria	623,609	155,370	51,790	41,958	52,232	21
Queensland	345,970	77,863	16,131	21,958	20,138	225
South Australia	230,455	27,263	12,178	12,904	15,996	—
Western Australia	216,209	34,453	10,518	12,099	18,465	—
Tasmania	79,049	10,096	4,294	3,517	2,796	—
Northern Territory	24,134	3,166	217	—	—	—
Australian Capital Territory	39,773	12,150	2,425	5,851	5,035	202
Australia—1978	**2,371,355**	**506,049**	**132,628**	**160,035**	**149,922**	**989**
1977	2,364,316	502,044	r128,765	158,411	140,312	1,307
1976	2,335,431	498,761	126,058	153,960	134,614	1,127
1975	2,297,979	496,199	125,102	148,338	122,557	3,843
1974	2,257,845	494,055	124,426	142,859	107,202	2,911
1973	2,240,642	491,775	120,994	133,126	61,575	r29,156

(*a*) All government teachers colleges and all kindergarten teachers colleges were colleges of advanced education by 1 July 1973 with the majority of them being reported for the first time in the college of advanced education statistical collection in 1974. (*b*) Excludes students enrolled at both a teachers college and another type of institution: they are included in the statistics for the other institution at which they are enrolled. Figures have been revised for 1973 to include 1,531 students who were enrolled at kindergarten teachers' colleges.

NOTE: For details of technical and further education institutions and associated enrolments, *see* pages 279-81.

Schools

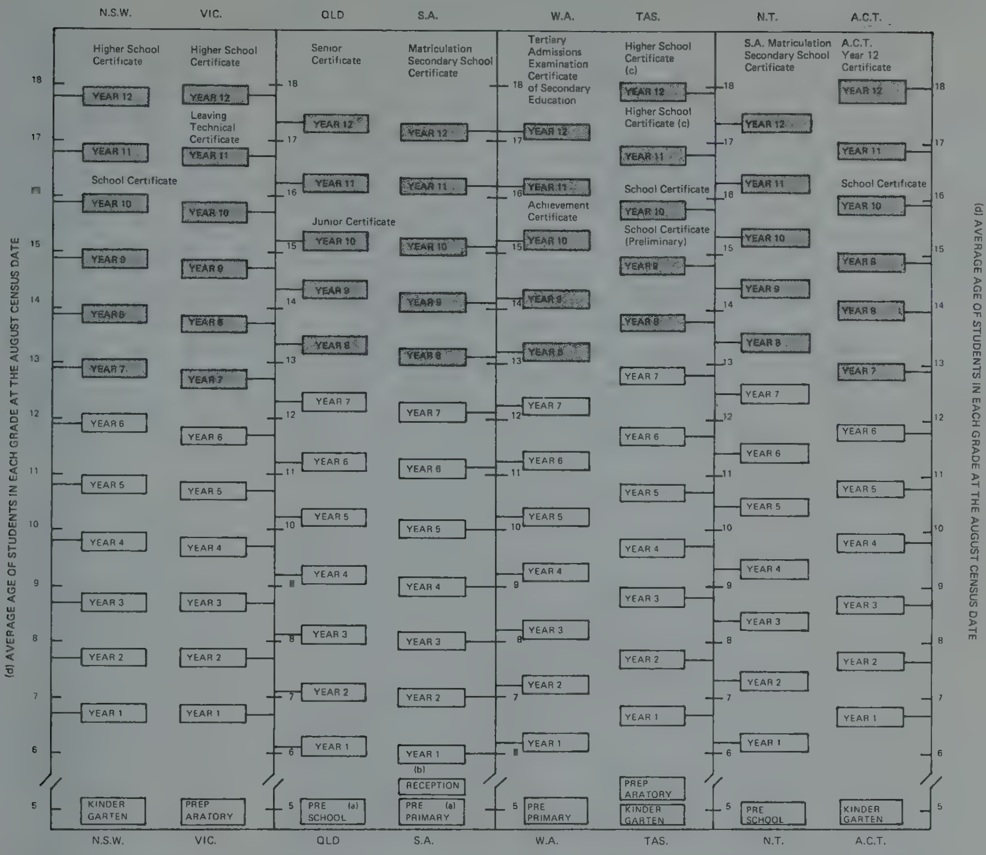
Statistics of government and non-government schools, teachers and students in 1978 and earlier years are shown in the following tables. The number of schools and teachers refer to the position at dates which vary from State to State and in some instances from year to year. Institutions providing only pre-school education, senior technical and agricultural colleges, evening schools, continuation classes, and institutions such as business colleges and coaching establishments are not included in these statistics. Student statistics in the tables which follow refer to the number of students enrolled at the schools included in the August schools census. For more detailed statistical information, *see* the annual publication *Schools, Australia* (4202.0).

NUMBERS OF SCHOOLS, TEACHERS AND STUDENTS, BY CATEGORY OF SCHOOL, STATES AND TERRITORIES, 1978

		Non-government schools				
	Government schools	*Church of England*	*Roman Catholic*	*Other(a)*	*Total*	*All schools*
			SCHOOLS			
New South Wales	2,228	32	607	134	773	3,001
Victoria	2,152	30	475	95	600	2,752
Queensland	1,235	13	282	39	334	1,569
South Australia	628	8	102	41	151	779
Western Australia	659	9	144	34	187	846
Tasmania	255	4	37	20	61	316
Northern Territory	120	—	9	2	11	131
Australian Capital Territory	87	2	24	2	28	115
Australia—1978	**7,364**	**98**	**1,680**	**367**	**2,145**	**9,509**
1977	7,325	99	1,685	341	2,125	9,450
1976	7,306	100	1,698	340	2,138	9,444
			TEACHERS(*b*)			
New South Wales	44,460	977	8,510	1,441	10,928	55,388
Victoria	40,557	1,407	7,039	2,170	10,616	51,173
Queensland	18,889	369	3,431	613	4,412	23,301
South Australia	14,475	181	1,389	582	2,152	16,627
Western Australia	11,436	308	1,706	431	2,445	13,881
Tasmania	4,584	120	458	179	757	5,340
Northern Territory	1,445	—	160	13	173	1,617
Australian Capital Territory	2,514	136	563	16	715	3,230
Australia—1978	**138,360**	**3,498**	**23,255**	**5,444**	**32,197**	**170,557**
1977	135,931	3,421	22,353	5,131	30,905	166,836
1976	129,668	3,334	21,399	4,967	29,700	159,368
			STUDENTS			
New South Wales	812,156	14,824	185,688	20,251	220,763	1,032,919
Victoria	623,609	20,223	155,370	31,567	207,160	830,769
Queensland	345,970	5,877	77,863	10,254	93,994	439,964
South Australia	230,455	3,569	27,263	8,609	39,441	269,896
Western Australia	216,209	4,196	34,453	6,322	44,971	261,180
Tasmania	79,049	1,780	10,096	2,514	14,390	93,439
Northern Territory	24,134	—	3,166	217	3,383	27,517
Australian Capital Territory	39,773	2,144	12,150	281	14,575	54,348
Australia—1978	**2,371,355**	**52,613**	**506,049**	**80,015**	**638,677**	**3,010,032**
1977	2,364,316	r51,658	502,044	r77,107	r630,809	r2,995,125
1976	2,335,431	50,833	498,761	75,225	624,819	2,960,250

(*a*) Includes non-denominational and denominational schools other than Church of England and Roman Catholic. (*b*) Full-time teachers plus full-time equivalent units of part-time teaching, rounded to whole numbers. Trainee teachers are excluded.

GRADES IN GOVERNMENT SCHOOLS, STATES AND TERRITORIES, 1978


N.S.W.
VIC.
QLD
S.A.
W.A.
TAS.
N.T.
A.C.T.
Higher School Certificate
School Certificate
KINDER GARTEN
Higher School Certificate
Leaving Technical Certificate
PREP ARATORY
Senior Certificate
Junior Certificate
PRE (a) SCHOOL
Matriculation Secondary School Certificate
(b) RECEPTION
PRE (a) PRIMARY
Tertiary Admissions Examination Certificate of Secondary Education
Achievement Certificate
PRE PRIMARY
Higher School Certificate (c)
Higher School Certificate (c)
School Certificate
School Certificate (Preliminary)
PREP ARATORY
KINDER GARTEN
S.A. Matriculation Secondary School Certificate
PRE SCHOOL
A.C.T. Year 12 Certificate
School Certificate
KINDER GARTEN
YEAR 12
YEAR 11
YEAR 10
YEAR 9
YEAR 8
YEAR 7
YEAR 6
YEAR 5
YEAR 4
YEAR 3
YEAR 2
YEAR 1
18
17
16
15
14
13
12
11
10
9
8
7
6
5
(d) AVERAGE AGE OF STUDENTS IN EACH GRADE AT THE AUGUST CENSUS DATE

The above diagram shows the usual grades in government primary and secondary schools in each State and Territory. Approximate average ages for each grade (at the August schools census) in each State and Territory are given in order to indicate differences in age-grade patterns. The diagram should not be taken as a comparison of academic standards of grades between States. For a more detailed presentation of the systems operating in each State, reference should be made to diagrams etc. appearing in the annual reports of the State Education Departments.

In all States and Territories, the non-government school sector has an average age-grade pattern, which is very similar to that for government schools. It should be noted that in some States and Territories there is a trend in both government and non-government schools not to allocate pupils into a grade structure

Further explanatory notes:

(a) In Queensland and South Australia all pre-school children were excluded from the School Census
(b) Reception refers to children who commenced school for the first time between March and August.
(c) In Tasmania, the Higher School Certificate may be attempted at the end of either Year 11 or Year 12.
(d) For age distribution within grades refer to age-grade tables which are available on request from the ABS.

Primary Grades ☐

Secondary Grades ▨

PLATE 34

GOVERNMENT AND NON-GOVERNMENT SCHOOLS: STUDENTS, BY AGE AND SEX, AUSTRALIA, 1978

(August school census)

	Government schools			*Non-government schools*			*All schools*		
Age last birthday (years)	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*	*Males*	*Females*	*Persons*
Under 6	94,279	89,515	183,794	20,083	20,422	40,505	114,362	109,937	224,299
6	113,552	107,805	221,357	25,065	25,032	50,097	138,617	132,837	271,454
7	116,483	110,844	227,327	25,344	25,801	51,145	141,827	136,645	278,472
8	108,406	102,409	210,815	24,899	24,793	49,692	133,305	127,202	260,507
9	107,197	101,813	209,010	24,825	25,281	50,106	132,022	127,094	259,116
10	101,929	96,184	198,113	25,155	24,858	50,013	127,084	121,042	248,126
11	99,877	94,030	193,907	25,888	25,431	51,319	125,765	119,461	245,226
12	95,448	88,981	184,429	27,768	28,231	55,999	123,216	117,212	240,428
13	96,868	90,054	186,922	27,977	28,675	56,652	124,845	118,729	243,574
14	101,551	93,136	194,687	27,914	28,742	56,656	129,465	121,878	251,343
15	89,841	83,056	172,897	26,181	27,199	53,380	116,022	110,255	226,277
16	58,664	55,853	114,517	19,989	21,207	41,196	78,653	77,060	155,713
17	28,165	28,711	56,876	13,377	13,430	26,807	41,542	42,141	83,683
18	6,925	5,778	12,703	2,561	1,975	4,536	9,486	7,753	17,239
19 and over	2,029	1,972	4,001	326	248	574	2,355	2,220	4,575
Australia—1978	**1,221,214**	**1,150,141**	**2,371,355**	**317,352**	**321,325**	**638,677**	**1,538,566**	**1,471,466**	**3,010,032**
1977	1,218,741	1,145,575	2,364,316	r313,296	r317,513	r630,809	r1,532,037	r1,463,088	r2,995,125
1976	1,207,676	1,127,755	2,335,431	310,818	314,001	624,819	1,518,494	1,441,756	2,960,250

SCHOOLS: STUDENTS, BY AGE, 1978

(August school census)

Age last birthday (years)	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Under 6	84,827	60,178	21,489	21,039	18,020	9,046	5,264	4,436	224,299
6	94,306	72,372	41,875	22,805	24,340	7,779	2,785	5,192	271,454
7	94,656	75,524	42,947	23,937	25,221	8,242	2,707	5,238	278,472
8	86,243	71,265	40,936	23,244	23,677	7,956	2,517	4,669	260,507
9	86,164	71,537	39,802	23,011	23,607	8,125	2,368	4,502	259,116
10	81,724	68,484	38,594	22,637	22,532	7,740	2,165	4,250	248,126
11	82,246	67,207	38,194	21,708	22,246	7,454	2,064	4,107	245,226
12	80,578	64,951	37,465	22,560	21,911	7,093	1,921	3,949	240,428
13	81,386	66,298	38,166	22,918	21,771	7,572	1,658	3,805	243,574
14	85,193	67,786	39,291	23,367	22,085	8,130	1,642	3,849	251,343
15	79,658	63,079	31,133	21,066	18,695	7,482	1,330	3,834	226,277
16	53,972	48,915	19,086	14,533	11,191	4,091	719	3,206	155,713
17	32,490	26,130	9,181	5,840	5,414	1,929	294	2,405	83,683
18	8,494	5,041	1,130	944	390	415	58	767	17,239
19 and over	982	2,002	675	287	80	385	25	139	4,575
Australia—1978	**1,032,919**	**830,769**	**439,964**	**269,896**	**261,180**	**93,439**	**27,517**	**54,348**	**3,010,032**
1977	r1,029,174	829,635	434,153	272,656	256,887	93,525	26,360	52,735	r2,995,125
1976	1,018,172	825,790	426,026	272,913	248,291	93,704	24,839	30,515	2,960,250

Technical and further education

The major part of technical and further education (TAFE) in Australia is provided in a network of government-administered institutions variously known as colleges, schools or centres of technical or further education. In addition, TAFE vocational courses are conducted by certain colleges of advanced education and by agricultural colleges in New South Wales and Victoria, and a large number of bodies, both statutory and voluntary, participate in the provision of adult education programs. The following statistics relate to technical and further education activities of the major government departments/divisions of TAFE, agricultural authorities and advanced education authorities; they do not include activities of bodies such as the Board of Adult Education in New South Wales, the Council of Adult Education in Victoria and the Australian Capital Territory evening colleges. For further information on the organisation of TAFE and associated statistical details, *see* the report, *Tertiary Education Commission—Recommendations For 1978* (August 1977), the Tertiary Education Commission's Report for 1979–81 Triennium, Volume 1 (February 1978), Volume 2 (August 1978) and Volume 3 (August 1979), the *First Report of the Technical and Further Education Commission*, (July 1976) and previous reports of the Australian Committee on Technical and Further Education.

TECHNICAL AND FURTHER EDUCATION: INSTITUTIONS BY TYPE OF INSTITUTION, 1978

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
Type of institution—									
Major TAFE Authorities—									
Major institutions(*a*)	74	31	25	31	27	6	1	4	199
Annexes(*b*)	150	10	5	494	—	—	5	4	668
Other institutions(*c*)	—	172	1	—	94	4	2	1	274
Annexes(*b*)	—	1	—	—	—	—	—	—	1
Agricultural authorities	2	6	—	—	—	—	—	—	8
Colleges of advanced education(*d*)	1	1	5	1	1	—	—	—	9
Total(*e*)	**227**	**221**	**36**	**526**	**122**	**10**	**8**	**9**	**1,159**

(*a*) Institutions whose functions are primarily TAFE. (*b*) Subsidiaries of parent institutions. (*c*) Institutions whose primary function is other than TAFE. (*d*) Colleges offering TAFE activities. (*e*) Includes parent institutions and subsidiaries (annexes) of parent institutions.

TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (*a*) BY TYPE OF ENROLMENT AND STREAM OF STUDY, 1978

Type of enrolment/ stream	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
FULL-TIME ENROLMENTS(*b*)									
Professional	55	296	—	—	—	—	55	7	413
Para-professional	6,441	3,693	631	655	3,058	374	49	319	15,220
Trades	2,310	884	227	93	493	—	—	31	4,038
Other skilled	7,679	948	2,697	33	98	696	104	300	12,555
Preparatory	4,261	6,820	176	665	658	34	—	326	12,940
Adult education	—	—	—	27	—	—	—	—	27
Total	*20,746*	*12,641*	*3,731*	*1,473*	*4,307*	*1,104*	*208*	*983*	*45,193*
PART-TIME ENROLMENTS(*b*)									
Professional	1,061	32	121	386	140	6	93	19	1,858
Para-professional	49,413	16,945	5,903	24,616	31,023	2,794	718	2,421	133,833
Trades	48,634	41,270	15,267	9,460	15,884	4,841	743	2,226	138,325
Other skilled	84,748	24,344	7,135	24,463	4,202	3,616	1,234	6,862	156,604
Preparatory	18,957	32,300	6,011	22,949	6,255	2,358	1,654	1,528	92,012
Adult education	19,430	48,699	38,650	47,958	66,452	20,613	4,580	1,358	247,740
Total	*222,243*	*163,590*	*73,087*	*129,832*	*123,956*	*34,228*	*9,022*	*14,414*	*770,372*
EXTERNAL ENROLMENTS									
Professional	257	—	—	150	—	—	—	—	407
Para-professional	5,334	3,723	3,193	2,479	7,312	532	4	—	22,577
Trades	995	476	689	138	2,627	—	—	—	4,925
Other skilled	5,382	1,154	1,754	831	1,319	—	—	—	10,440
Preparatory	3,989	1,599	4,484	1,934	1,815	488	58	—	14,367
Adult education	896	—	72	500	1,223	—	—	—	2,691
Total	*16,853*	*6,952*	*10,192*	*6,032*	*14,296*	*1,020*	*62*	—	*55,407*
TOTAL ENROLMENTS									
Professional	1,373	328	121	536	140	6	148	26	2,678
Para-professional	61,188	24,361	9,727	27,750	41,393	3,700	771	2,740	171,630
Trades	51,939	42,630	16,183	9,691	19,004	4,841	743	2,257	147,288
Other skilled	97,809	26,446	11,586	25,327	5,619	4,312	1,338	7,162	179,599
Preparatory	27,207	40,719	10,671	25,548	8,728	2,880	1,712	1,854	119,319
Adult education	20,326	48,699	38,722	48,485	67,675	20,613	4,580	1,358	250,458
Total—1978	**259,842**	**183,183**	**87,010**	**137,337**	**142,559**	**36,352**	**9,292**	**15,397**	**870,972**
1977	238,308	158,935	82,537	149,352	136,335	29,041	9,975	14,330	818,813
1976	227,836	150,273	93,474	128,703	120,828	26,508	7,195	13,627	768,444

(*a*) Total enrolments registered during the year up to 31 October. These data refer to numbers of enrolments, not students. (*b*) An enrolment is full-time when average weekly attendance over the teaching year amounts to 15 hours or more and part-time when less than 15 hours.

NOTE: 1978 TAFE enrolment comparisons with 1976 and 1977 data need to be treated with caution because of the change in reporting provisional and multiple enrolments in South Australia in 1978, resulting in a decrease in reported enrolments for that State of 8 per cent on enrolments of the previous year.

TECHNICAL AND FURTHER EDUCATION: ENROLMENTS(*a*) BY TYPE OF ENROLMENT AND FIELD OF STUDY, 1978

Field of study	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
FULL-TIME ENROLMENTS(*b*)									
Applied science	276	741	109	–	302	15	10	70	1,523
Art and design	1,128	1,220	307	151	613	54	–	53	3,526
Building industry	735	516	227	27	248	–	22	–	1,775
Business studies	9,001	2,714	2,058	226	1,371	725	85	300	16,480
Engineering	2,721	2,590	94	175	578	84	15	56	6,313
Rural and horticultural	451	387	434	40	110	–	–	–	1,422
Music	34	31	31	15	–	–	–	–	111
Para-medical services	190	–	–	10	50	–	–	–	250
Service industries	1,596	756	25	113	365	126	–	178	3,159
General studies	4,614	3,686	446	716	670	100	76	326	10,634
Total	*20,746*	*12,641*	*3,731*	*1,473*	*4,307*	*1,104*	*208*	*983*	*45,193*
PART-TIME ENROLMENTS(*b*)									
Applied science	2,467	3,386	528	605	1,746	841	362	249	10,184
Art and design	13,215	9,758	15,920	16,525	5,270	6,609	1,119	714	69,130
Building industry	15,068	20,692	6,899	9,856	5,974	3,195	637	1,036	63,357
Business studies	50,843	16,927	7,328	18,209	14,562	2,564	942	3,840	115,215
Engineering	55,684	40,802	16,503	18,244	16,373	4,421	1,025	2,665	155,717
Rural and horticultural	8,130	16,823	1,338	6,173	729	735	50	645	34,623
Music	12	493	1,080	3,799	–	423	772	268	6,847
Para-medical services	2,799	350	269	703	231	132	35	30	4,549
Service industries	50,746	20,567	10,657	31,501	3,744	10,421	1,517	3,441	132,594
General studies	23,279	33,792	12,565	24,217	75,327	4,887	2,563	1,526	178,156
Total	*222,243*	*163,590*	*73,087*	*129,832*	*123,956*	*34,228*	*9,022*	*14,414*	*770,372*
EXTERNAL ENROLMENTS									
Applied science	–	286	22	–	352	14	–	–	674
Art and design	659	–	–	573	213	–	–	–	1,445
Building industry	559	444	603	95	683	–	–	–	2,384
Business studies	5,257	3,386	1,346	2,065	3,751	488	–	–	16,293
Engineering	2,531	945	2,513	375	3,905	–	–	–	10,269
Rural and horticultural	1,375	229	478	581	562	–	–	–	3,225
Music	–	–	–	10	–	–	–	–	10
Para-medical services	429	–	157	41	239	–	–	–	866
Service industries	1,974	108	474	34	859	–	–	–	3,449
General studies	4,069	1,554	4,599	2,258	3,732	518	62	–	16,792
Total	*16,853*	*6,952*	*10,192*	*6,032*	*14,296*	*1,020*	*62*	–	*55,407*
TOTAL ENROLMENTS									
Applied science	2,743	4,413	659	605	2,400	870	372	319	12,381
Art and design	15,002	10,978	16,227	17,249	6,096	6,663	1,119	767	74,101
Building industry	16,362	21,652	7,729	9,978	6,905	3,195	659	1,036	67,516
Business studies	65,101	23,027	10,732	20,500	19,684	3,777	1,027	4,140	147,988
Engineering	60,936	44,337	19,110	18,794	20,856	4,505	1,040	2,721	172,299
Rural and horticultural	9,956	17,439	2,250	6,794	1,401	735	50	645	39,270
Music	46	524	1,111	3,824	–	423	772	268	6,968
Para-medical services	3,418	350	426	754	520	132	35	30	5,665
Service industries	54,316	21,431	11,156	31,648	4,968	10,547	1,517	3,619	139,202
General studies	31,962	39,032	17,610	27,191	79,729	5.505	2,701	1,852	205,582
Total—1978	**259,842**	**183,183**	**87,010**	**137,337**	**142,559**	**36,352**	**9,292**	**15,397**	**870,972**
1977	238,308	158,935	82,537	149,352	136,335	29,041	9,975	14,330	818,813
1976	227,836	150,273	93,474	128,703	120,828	26,508	7,195	13,627	768,444

(*a*) These data refer to numbers of enrolments, not students. (*b*) An enrolment is full-time when average weekly attendance over the teaching year amounts to 15 hours or more and part-time when less than 15 hours.

NOTE: 1978 TAFE enrolment comparisons with 1976 and 1977 data need to be treated with caution because of the change in reporting provisional and multiple enrolments in South Australia in 1978.

TECHNICAL AND FURTHER EDUCATION: TEACHING EFFORT (*a*) BY TYPE OF APPOINTMENT AND STREAM, 1978
('000 hours)

Stream	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Australia*
				FULL-TIME STAFF(*b*)					
Professional	2.7	34.5	0.5	1.1	15.5	—	6.5	0.8	61.7
Para-professional	548.2	404.0	70.1	246.2	307.3	38.8	7.6	35.3	1,657.7
Trades	875.5	1,033.7	385.4	328.4	264.8	115.7	21.9	40.0	3,065.3
Other skilled	467.8	127.0	182.9	48.0	15.6	38.2	3.7	28.8	912.0
Preparatory	182.2	425.8	55.3	64.1	48.6	9.1	3.2	11.8	800.3
Adult education	28.6	75.2	8.4	37.4	13.1	0.2	4.1	1.8	168.6
Total	*2,105.0*	*2,100.1*	*702.5*	*725.4*	*665.0*	*202.1*	*47.1*	*118.5*	*6,665.6*
				PART-TIME STAFF(*c*)					
Professional	6.1	0.9	0.3	1.2	1.0	0.1	1.8	0.4	11.7
Para-professional	421.2	98.1	71.8	60.8	123.4	35.6	1.5	26.7	839.0
Trades	299.1	41.7	6.2	8.3	70.5	19.2	3.8	9.6	458.3
Other skilled	424.4	57.0	42.6	42.5	10.0	18.2	2.4	23.0	620.1
Preparatory	159.6	156.0	31.1	74.5	39.6	14.4	10.2	27.8	513.1
Adult education	71.6	62.4	49.9	122.0	107.0	32.5	7.6	3.3	456.4
Total	*1,381.9*	*416.1*	*201.9*	*309.2*	*351.4*	*119.9*	*27.2*	*90.9*	*2,898.6*
				ALL TEACHING STAFF					
Professional	8.8	35.4	0.9	2.3	16.5	0.1	8.3	1.2	73.4
Para-professional	969.4	501.9	141.9	307.2	430.7	74.4	9.1	62.0	2,496.7
Trades	1,174.6	1,075.4	391.6	336.7	335.3	134.9	25.7	49.5	3,523.6
Other skilled	892.2	184.1	225.6	90.5	25.6	56.3	6.1	51.8	1,532.1
Preparatory	341.8	581.8	86.5	138.6	88.2	23.5	13.5	39.6	1,313.4
Adult education	100.2	137.6	58.1	159.3	120.1	32.8	11.7	5.1	625.0
Total	**3,486.9**	**2,516.2**	**904.5**	**1,034.6**	**1,016.4**	**322.0**	**74.3**	**209.3**	**9,564.2**

(*a*) Hours of class contact by teachers. (*b*) All teaching staff employed full-time including 'multi-sector' staff whose duties extend to teaching areas other than TAFE. Teaching hours reported in this table relates only to teaching undertaken in TAFE. (*c*) Part-time teaching effort relates to all teaching duty performed by staff employed part-time and teaching hours worked on an overtime basis by full-time staff.

Colleges of Advanced Education

The following statistics refer to operative institutions listed in the appropriate States Grants (Tertiary Education Assistance) Acts as colleges of advanced education, and the Canberra College of Advanced Education. These tables show details of students commencing advanced level courses, the number of students and teaching staff in 1978 and the number of students who completed advanced level courses in 1977. The reference date for these statistics is 30 April except for students who completed advanced level courses for whom the reference period is the twelve months ended 31 December. For more detailed statistics, *see* the annual publication *Colleges of Advanced Education, Australia* (4206.0).

COLLEGES OF ADVANCED EDUCATION: STUDENTS COMMENCING BY COURSE LEVEL AND FIELD OF STUDY, 1978(*a*)

Field of study	*Master degree*	*Graduate diploma*	*Bachelor degree*	*Diploma*	*Associate diploma*	*Total*		
						Males	*Females*	*Persons*
Agriculture	—	101	125	236	474	714	222	936
Applied sciences	83	1,033	3,256	520	516	3,741	1,667	5,408
Art and design	—	368	1,526	1,648	510	1,785	2,267	4,052
Building, surveying and architecture	2	134	1,024	319	261	1,420	320	1,740
Commercial and business studies	77	1,929	8,850	1,292	1,392	9,964	3,576	13,540
Engineering and technology	30	436	2,389	248	712	3,759	56	3,815
Liberal studies	14	2,071	4,955	1,324	1,115	3,425	6,054	9,479
Music	—	70	259	225	23	227	350	577
Para-medical	21	206	1,758	1,010	665	943	2,717	3,660
Teacher education	35	3,272	3,254	12,058	417	5,421	13,615	19,036
Total—1978	**262**	**9,620**	**27,396**	**18,880**	**6,085**	**31,399**	**30,844**	**62,243**
1977	205	8,249	23,848	19,711	4,606	29,165	27,454	56,619
1976	135	6,672	18,309	22,515	4,491	27,349	24,773	52,122

(*a*) Excludes students commencing in second semester.

COLLEGES OF ADVANCED EDUCATION: STUDENTS WHO COMPLETED COURSES BY FIELD OF STUDY AND COURSE LEVEL, 1977

Field of study	*Master degree*	*Graduate diploma*	*Bachelor degree*	*Diploma*	*Associate diploma*	*Total*		
						Males	*Females*	*Persons*
Agriculture	–	86	56	238	120	434	66	500
Applied sciences	11	234	878	352	75	1,170	380	1,550
Art and design	–	87	295	1,074	25	666	815	1,481
Building, surveying and architecture	–	43	371	228	49	595	96	691
Commercial and business studies	17	675	1,484	1,217	280	2,745	928	3,673
Engineering and technology	2	65	860	560	28	1,509	6	1,515
Liberal studies	–	612	1,171	703	256	1,035	1,707	2,742
Music	–	32	38	204	3	89	188	277
Para-medical	10	90	678	619	396	452	1,341	1,793
Teacher education	1	3,382	833	12,635	419	4,986	12,284	17,270
Total–1977	**41**	**5,306**	**6,664**	**17,830**	**1,651**	**13,681**	**17,811**	**31,492**
1976	36	4,412	4,813	17,914	1,679	12,995	15,859	28,854
1975	17	3,814	3,566	15,242	2,030	11,446	13,223	24,669

COLLEGES OF ADVANCED EDUCATION: STUDENTS BY TYPE OF ENROLMENT COURSE LEVEL AND FIELD OF STUDY, 1978

Field of study	*Master degree*	*Graduate diploma*	*Bachelor degree*	*Diploma*	*Associate diploma*	*Total*		
						Males	*Females*	*Persons*
FULL-TIME STUDENTS								
Agriculture	–	61	332	595	663	1,296	355	1,651
Applied sciences	46	441	4,556	1,006	436	4,458	2,027	6,485
Art and design	–	255	3,103	4,561	182	3,710	4,391	8,101
Building, surveying and architecture	–	1	1,801	251	182	1,750	485	2,235
Commercial and business studies	15	539	7,925	2,375	713	6,960	4,607	11,567
Engineering and technology	18	1	4,621	603	267	5,429	81	5,510
Liberal studies	10	1,044	6,510	2,568	856	4,204	6,784	10,988
Music	–	79	438	586	27	441	689	1,130
Para-medical	29	132	3,626	1,543	723	1,572	4,481	6,053
Teacher education	4	2,037	1,504	26,307	694	7,576	22,970	30,546
Total–1978	*122*	*4,590*	*34,416*	*40,395*	*4,743*	*37,396*	*46,870*	*84,266*
1977	98	4,737	30,701	45,507	3,851	37,946	46,948	84,894
1976	77	4,104	24,459	50,226	3,745	37,014	45,597	82,611
PART-TIME–INTERNAL STUDENTS								
Agriculture	–	3	8	31	4	37	9	46
Applied sciences	129	1,029	2,857	714	342	3,802	1,269	5,071
Art and design	–	212	462	498	610	777	1,005	1,782
Building, surveying and architecture	6	355	1,211	965	155	2,434	258	2,692
Commercial and business studies	186	1,946	10,970	2,164	1,565	14,236	2,595	16,831
Engineering and technology	76	553	2,597	611	524	4,314	47	4,361
Liberal studies	23	1,372	4,234	753	839	2,897	4,324	7,221
Music	–	18	243	221	12	179	315	494
Para-medical	36	164	1,242	541	397	685	1,695	2,380
Teacher education	73	1,803	2,928	5,666	59	3,528	7,001	10,529
Total–1978	*529*	*7,455*	*26,752*	*12,164*	*4,507*	*32,889*	*18,518*	*51,407*
1977	416	5,820	22,460	12,525	3,445	30,302	14,364	44,666
1976	364	5,138	19,127	14,256	3,927	30,768	12,044	42,812
PART-TIME–EXTERNAL STUDENTS								
Agriculture	–	61	–	–	149	174	36	210
Applied sciences	17	15	836	25	197	842	248	1,090
Art and design	–	2	105	63	2	125	47	172
Building, surveying and architecture	–	–	15	66	106	179	8	187
Commercial and business studies	1	579	2,141	596	747	3,406	658	4,064
Engineering and technology	3	165	74	21	207	463	7	470
Liberal studies	–	406	1,572	282	270	848	1,682	2,530
Music	–	1	–	–	–	–	1	1
Para-medical	–	–	14	212	238	138	326	464
Teacher education	–	639	1,234	3,188	–	1,349	3,712	5,061
Total–1978	*21*	*1,868*	*5,991*	*4,453*	*1,916*	*7,524*	*6,725*	*14,249*
1977	20	1,145	3,925	4,457	1,205	5,569	5,183	10,752
1976	–	629	2,611	4,883	1,068	4,667	4,524	9,191

COLLEGES OF ADVANCED EDUCATION: STUDENTS BY TYPE OF ENROLMENT COURSE LEVEL AND FIELD OF STUDY, 1978—*continued*

Field of study	*Master degree*	*Graduate diploma*	*Bachelor degree*	*Diploma*	*Associate diploma*	*Total* *Males*	*Females*	*Persons*
			ALL STUDENTS					
Agriculture	–	125	340	626	816	1,507	400	1,907
Applied sciences	192	1,485	8,249	1,745	975	9,102	3,544	12,646
Art and design	–	469	3,670	5,122	794	4,612	5,443	10,055
Building, surveying and architecture	6	356	3,027	1,282	443	4,363	751	5,114
Commercial and business studies	202	3,064	21,036	5,135	3,025	24,602	7,860	32,462
Engineering and technology	97	719	7,292	1,235	998	10,206	135	10,341
Liberal studies	33	2,822	12,316	3,603	1,965	7,949	12,790	20,739
Music	–	98	681	807	39	620	1,005	1,625
Para-medical	65	296	4,882	2,296	1,358	2,395	6,502	8,897
Teacher education	77	4,479	5,666	35,161	753	12,453	33,683	46,136
Total—1978	**672**	**13,913**	**67,159**	**57,012**	**11,166**	**77,809**	**72,113**	**149,922**
1977	534	11,702	57,086	62,489	8,501	73,817	66,495	140,312
1976	441	9,871	46,197	69,365	8,740	72,449	62,165	134,614

COLLEGES OF ADVANCED EDUCATION: TEACHING STAFF BY FIELD OF TEACHING STATES AND A.C.T., 1978

Teaching effort in approved courses of full-time and part-time staff, expressed in equivalent full-time units and rounded to whole numbers.

Field of teaching	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Australia*
			FULL-TIME STAFF					
Agriculture	86	4	32	28	14	–	–	164
Applied sciences	292	529	250	112	100	13	80	1,376
Art and design	195	300	43	88	27	24	–	677
Building, surveying and architecture	23	59	30	32	32	8	18	202
Commercial and business studies	211	419	143	55	99	17	40	985
Engineering and technology	51	361	111	72	71	15	–	681
Liberal studies	348	569	208	130	107	24	50	1,436
Music	68	33	17	2	–	20	–	139
Para-medical	58	159	35	77	95	4	–	428
Teacher education	751	760	283	359	384	85	48	2,670
Not classifiable	15	9	8	24	3	–	–	59
Total—1978	*2,096*	*3,202*	*1,161*	*978*	*933*	*210*	*236*	*8,816*
1977	2,020	3,197	1,104	951	922	201	231	8,625
1976	1,858	3,134	957	871	914	205	226	8,165
			PART-TIME STAFF					
Agriculture	1	2	–	–	–	–	–	3
Applied sciences	23	70	8	7	16	3	25	152
Art and design	29	61	7	9	8	4	–	118
Building, surveying and architecture	12	32	27	7	6	1	2	87
Commercial and business studies	22	41	42	4	22	4	14	149
Engineering and technology	24	28	20	1	8	1	–	81
Liberal studies	24	60	26	31	19	5	14	179
Music	40	9	14	–	–	5	–	68
Para-medical	11	27	10	23	19	1	–	91
Teacher education	44	45	18	23	43	14	13	200
Not classifiable	2	15	–	1	1	–	–	18
Total—1978	*232*	*390*	*172*	*106*	*140*	*38*	*67*	*1,145*
1977	204	341	116	92	129	18	50	949
1976	241	512	104	104	156	17	47	1,181
			ALL STAFF					
Agriculture	86	6	32	28	14	–	–	167
Applied sciences	315	599	258	119	116	15	105	1,528
Art and design	224	361	50	97	35	28	–	795
Building, surveying and architecture	35	91	57	38	38	9	20	288
Commercial and business studies	234	460	184	60	121	21	54	1,133
Engineering and technology	74	389	131	73	78	16	–	762
Liberal studies	373	628	234	161	127	30	64	1,615
Music	108	42	31	2	–	25	–	207
Para-medical	69	186	45	100	113	6	–	519
Teacher education	794	805	302	383	427	100	61	2,870
Not classifiable	17	24	8	25	4	–	–	77
Total—1978	**2,328**	**3,592**	**1,333**	**1,085**	**1,073**	**248**	**303**	**9,962**
1977	2,224	3,538	1,220	1,043	1,051	218	281	9,574
1976	2,099	3,646	1,061	975	1,070	222	273	9,346

Universities

The following university statistics provide details of the total number of students enrolled in university courses, the teaching staff engaged, and the number of students commencing and completing courses. The reference date for the statistics is 30 April except for students completing courses for whom the reference date is the year ended 30 June. For more detailed statistics, *see* the annual publications *University Statistics, Australia,* Parts 1 and 2 (4208.0 and 4209.0).

UNIVERSITIES: STUDENTS COMMENCING, 1978

					Total		
	Doctorate	*Master's degree*	*Bachelor degree*	*Non-degree*	*Males*	*Females*	*Persons*
New South Wales	375	1,920	15,556	2,984	12,404	8,431	20,835
Victoria	245	1,354	11,154	2,239	8,222	6,770	14,992
Queensland	123	434	5,779	733	3,923	3,146	7,069
South Australia	104	212	3,020	805	2,424	1,717	4,141
Western Australia	58	285	3,516	658	2,584	1,933	4,517
Tasmania	30	38	1,086	280	926	508	1,434
Australian Capital Territory	164	143	1,435	264	1,206	800	2,006
Australia—1978	**1,099**	**4,386**	**41,546**	**7,963**	**31,689**	**23,305**	**54,994**
1977	1,071	4,465	40,358	8,160	31,639	22,415	54,054
1976	1,119	4,315	41,074	8,118	32,612	22,014	54,626

UNIVERSITIES: FULL-TIME AND PART-TIME STUDENTS BY SEX AND COURSE LEVEL, 1976 TO 1978

	Males			*Females*		
Course level	*1976*	*1977*	*1978*	*1976*	*1977*	*1978*
FULL-TIME STUDENTS						
Doctorate	2,683	2,720	2,765	712	782	825
Master's degree	2,350	2,282	2,266	902	993	1,002
Bachelor degree	55,139	55,592	54,386	34,694	35,761	36,004
Non-degree	2,018	2,210	1,926	2,107	2,561	2,180
Total	*62,190*	*62,804*	*61,343*	*38,415*	*40,097*	*40,011*
PART-TIME STUDENTS						
Doctorate	1,530	1,641	1,766	353	352	439
Master's degree	6,941	7,296	7,431	2,118	2,364	2,670
Bachelor degree	20,621	20,623	21,075	14,121	15,382	17,409
Non-degree	4,617	4,579	4,603	3,054	3,273	3,288
Total	*33,709*	*34,139*	*34,875*	*19,646*	*21,371*	*23,806*
ALL STUDENTS						
Doctorate	4,213	4,361	4,531	1,065	1,134	1,264
Master's degree	9,291	9,578	9,697	3,020	3,357	3,672
Bachelor degree	75,760	76,215	75,461	48,815	51,143	53,413
Non-degree	6,635	6,789	6,529	5,161	5,834	5,468
Total	**95,899**	**96,943**	**96,218**	**58,061**	**61,468**	**63,817**

UNIVERSITIES: STUDENTS BY TYPE OF ENROLMENT AND FIELD OF STUDY, 1978

								Australia		
Field of study	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Males*	*Females*	*Persons*
FULL-TIME STUDENTS										
Humanities	10,045	6,461	2,731	2,447	1,876	718	1,471	10,183	15,566	25,749
Fine arts	73	388	71	160	72	–	–	300	464	764
Social and behavioural sciences	2,208	1,232	665	177	403	8	22	1,712	3,003	4,715
Law	2,518	1,892	609	559	375	244	482	4,582	2,097	6,679
Education	1,775	1,412	576	446	730	303	–	2,029	3,213	5,242
Economics, commerce, government	4,549	3,275	758	670	714	155	439	8,004	2,556	10,560
Medicine	3,893	2,554	2,306	1,066	711	344	24	6,741	4,157	10,898
Dentistry	578	254	302	267	150	–	–	1,223	328	1,551
Natural sciences	6,211	6,427	2,134	1,862	1,632	516	935	13,026	6,691	19,717
Engineering, technology	4,480	2,203	1,023	607	612	174	–	8,724	375	9,099
Architecture, building	1,282	605	203	188	111	–	2	1,858	533	2,391
Agriculture, forestry	971	544	228	251	196	52	298	2,010	530	2,540
Veterinary science	417	252	474	–	183	–	–	871	455	1,326
Not stated	12	13	1	–	45	–	52	80	43	123
Total—1978	*39,012*	*27,512*	*12,081*	*8,700*	*7,810*	*2,514*	*3,725*	*61,343*	*40,011*	*101,354*
1977	39,473	28,064	11,966	9,037	7,694	2,685	3,982	62,804	40,097	102,901
1976	38,795	26,992	11,815	9,329	7,163	2,468	4,043	62,190	38,415	100,605
PART-TIME STUDENTS										
Humanities	7,248	4,444	4,309	1,663	1,677	426	1,168	8,608	12,327	20,935
Fine arts	49	69	21	42	43	–	–	103	121	224
Social and behavioural sciences	1,902	1,852	341	172	239	13	26	2,084	2,461	4,545
Law	993	797	403	109	48	62	169	1,975	606	2,581
Education	1,941	2,597	1,994	509	743	102	–	4,113	3,773	7,886
Economics, commerce, government	4,308	1,883	1,307	623	580	156	485	7,823	1,519	9,342
Medicine	235	255	116	244	34	4	–	539	349	888
Dentistry	60	36	21	39	11	–	–	147	20	167
Natural sciences	2,836	1,454	848	550	473	170	253	4,719	1,865	6,584
Engineering, technology	2,041	323	272	120	173	54	–	2,903	80	2,983
Architecture, building	635	284	102	74	15	–	–	919	191	1,110
Agriculture, forestry	186	97	71	59	48	16	21	434	64	498
Veterinary science	33	17	56	–	10	–	–	90	26	116
Not stated	269	338	16	–	195	–	4	418	404	822
Total—1978	*22,736*	*14,446*	*9,877*	*4,204*	*4,289*	*1,003*	*2,126*	*34,875*	*23,806*	*58,681*
1977	22,167	12,613	9,547	4,353	4,079	840	1,911	34,139	21,371	55,510
1976	21,450	11,395	9,089	4,164	4,130	1,068	2,059	33,709	19,646	53,355
TOTAL STUDENTS										
Humanities	17,293	10,905	7,040	4,110	3,553	1,144	2,639	18,791	27,893	46,684
Fine arts	122	457	92	202	115	—	—	403	585	988
Social and behavioural sciences	4,110	3,084	1,006	349	642	21	48	3,796	5,464	9,260
Law	3,511	2,689	1,012	668	423	306	651	6,557	2,703	9,260
Education	3,716	4,009	2,570	955	1,473	405	—	6,142	6,986	13,128
Economics, commerce, government	8,857	5,158	2,065	1,293	1,294	311	924	15,827	4,075	19,902
Medicine	4,128	2,809	2,422	1,310	745	348	24	7,280	4,506	11,786
Dentistry	638	290	323	306	161	—	—	1,370	348	1,718
Natural sciences	9,047	7,881	2,982	2,412	2,105	686	1,188	17,745	8,556	26,301
Engineering, technology	6,521	2,526	1,295	727	785	228	—	11,627	455	12,082
Architecture, building	1,917	889	305	262	126	—	2	2,777	724	3,501
Agriculture, forestry	1,157	641	299	310	244	68	319	2,444	594	3,038
Veterinary science	450	269	530	—	193	—	—	961	481	1,442
Not stated	281	351	17	—	240	—	56	498	447	945
Total—1978	**61,748**	**41,958**	**21,958**	**12,904**	**12,099**	**3,517**	**5,851**	**96,218**	**63,817**	**160,035**
1977	61,640	40,677	21,513	13,390	11,773	3,525	5,893	96,943	61,468	158,411
1976	60,245	38,387	20,904	13,493	11,293	3,536	6,102	95,899	58,061	153,960

UNIVERSITIES: TEACHING STAFF(*a*), BY FIELD OF TEACHING, 1978

Field of teaching	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*A.C.T.*	*Aust.*
FULL-TIME STAFF								
Humanities	657	476	249	146	118	44	144	1,833
Fine arts	52	56	17	39	9	–	2	173
Social and behavioural sciences	461	216	138	91	97	33	45	1,080
Law	132	143	35	28	19	12	35	404
Education	251	199	72	48	68	15	1	654
Economics, commerce, government	505	293	115	99	81	33	58	1,184
Medicine	272	211	157	126	86	42	–	893
Dentistry	41	28	37	23	17	–	–	146
Natural sciences	1,001	669	432	279	203	96	112	2,791
Engineering, technology	496	209	112	52	53	25	–	946
Architecture	118	46	26	15	8	–	–	213
Agriculture, forestry	100	53	40	41	22	9	21	286
Veterinary science	47	39	49	–	38	–	–	173
Other(*b*)	25	6	36	–	–	1	–	68
Total—1978	*4,157*	*2,643*	*1,514*	*985*	*818*	*309*	*418*	*10,842*
1977	4,084	2,590	1,491	979	775	298	405	10,622
1976	4,079	2,381	1,430	987	723	293	405	10,299
PART-TIME STAFF (full-time equivalent units)								
Humanities	37	21	7	5	8	1	9	87
Fine arts	4	9	1	6	1	–	–	21
Social and behavioural sciences	34	14	9	5	8	1	3	73
Law	9	11	1	2	2	–	6	31
Education	47	22	3	2	9	2	–	84
Economics, commerce, government	31	20	2	5	1	–	2	61
Medicine	84	81	34	9	16	2	–	227
Dentistry	14	12	11	18	10	–	–	65
Natural sciences	109	120	11	48	36	6	15	346
Engineering and technology	39	23	6	8	6	–	–	82
Architecture	21	11	2	2	4	–	–	40
Agriculture, forestry	6	4	2	–	1	–	2	15
Veterinary science	2	2	2	–	–	–	–	7
Other(*b*)	6	2	6	–	–	–	–	14
Total—1978	*444*	*350*	*97*	*110*	*102*	*13*	*38*	*1,154*
1977	469	349	90	117	105	11	33	1,175
1976	504	348	87	111	109	16	27	1,203
ALL STAFF (full-time equivalent units) (*c*)								
Humanities	694	497	256	150	126	45	153	1,920
Fine arts	55	65	18	44	10	–	2	195
Social and behavioural sciences	495	230	146	95	104	34	48	1,152
Law	142	154	36	30	21	12	41	436
Education	298	221	75	50	77	17	1	738
Economics, commerce, government	536	313	117	103	82	33	60	1,245
Medicine	356	292	191	135	103	43	–	1,119
Dentistry	55	40	48	41	26	–	–	211
Natural sciences	1,110	789	443	327	239	102	127	3,137
Engineering and technology	535	231	118	60	59	25	–	1,028
Architecture	139	57	28	17	12	–	–	253
Agriculture, forestry	105	57	42	41	23	9	23	301
Veterinary science	49	40	51	–	38	–	–	179
Other(*b*)	31	8	42	–	–	1	–	82
Total—1978	**4,601**	**2,993**	**1,611**	**1,095**	**921**	**321**	**456**	**11,996**
1977	4,553	2,940	1,582	1,096	879	309	438	11,797
1976	4,584	2,729	1,517	1,098	833	309	432	11,501

(*a*) Excludes research only staff. (*b*) Includes staff teaching in the field of general studies and also a small number of staff unallocated to field of teaching. (*c*) The conversion of part-time staff to equivalent full-time units is made on the following basis: lecturer—250 hours per annum; and tutor/demonstrator—700 hours per annum.

UNIVERSITIES: STUDENTS COMPLETING DEGREE AND POST-GRADUATE DIPLOMA COURSES BY FIELD OF STUDY, YEAR ENDED 30 JUNE 1978

Field of study	*Degrees*					
	Doctorate (other than Ph.D.)	*Ph.D.*	*Master*	*Bachelor*	*Post graduate diplomas*	*Total*
Humanities	1	67	221	7,789	9	8,087
Fine arts	—	3	15	135	6	159
Social and behavioural sciences	—	66	160	1,194	230	1,650
Law	1	5	78	1,490	77	1,651
Education	—	30	339	1,158	3,290	4,817
Economics, commerce, government	—	39	405	3,178	84	3,706
Medicine	31	62	55	1,775	132	2,055
Dentistry	4	2	25	263	3	297
Natural sciences	16	331	319	5,087	131	5,884
Engineering, technology	—	110	256	1,566	17	1,949
Architecture	—	5	60	515	45	625
Agriculture, forestry	2	55	106	362	41	566
Veterinary science	—	13	31	180	3	227
Total—1978	**55**	**788**	**2,070**	**24,692**	**4,068**	**31,673**
1977	53	747	1,935	23,812	4,066	30,613
1976	48	803	1,765	23,025	4,172	29,813

STUDENT ASSISTANCE SCHEMES FUNDED BY THE DEPARTMENT OF EDUCATION

Scheme	*Number of students 1978*	*Expenditure ($'000) 1977–1978*
Postgraduate Awards(*a*)	2,053	9,404
Tertiary Education Assistance(*a*)	88,719	146,133
Pre-school Teacher Education(*a*)	781	2,040
Postgraduate Awards—Social Work (*a*)	3	225
Secondary Allowances(*b*)	17,632	9,013
Adult Secondary Education Assistance(*a*)	2,233	4,935
Aboriginal Secondary Grants(*a*)	13,627	12,073
Aboriginal Study Grants(*b*)	4,341	3,581
Aboriginal Study Grants—Overseas(*b*)	10	61
Assistance for Isolated Children(*a*)	15,782	14,097
Non-State Tertiary Institutions	n.a.	3,152
Overseas Study Fellowships in Recreation(*b*)	5	97
Overseas Management Fellowships(*b*)	13	110
Commonwealth Teaching Service Scholarships(*a*)	516	1,184
Other(*a*)	12	8

(*a*) For this scheme, the 'number of students' represents students receiving benefits at 30 June each year. (*b*) For this scheme the 'number of students' represents students receiving benefits at some time during the year.

Overseas students

The following table shows the number of private students and sponsored overseas students and trainees in Australia at 30 June 1979. The Department of Immigration and Ethnic Affairs and the Department of Education prepare statistics of overseas students admitted under the *Private Overseas Student Program.* The statistics in the following table exclude practical experience and specialised trainees, exchange students and students not currently undertaking study. Further details on sponsored overseas students and trainees in Australia are available from publications issued by the Australian Development Assistance Bureau within the Department of Foreign Affairs.

OVERSEAS STUDENTS: NUMBER OF PRIVATE STUDENTS AND SPONSORED STUDENTS AND TRAINEES BY LAST PLACE OF RESIDENCE, AS AT 30 JUNE 1979

		Sponsored students and trainees				
Last place of residence	*Private students (a)*	*Colombo Plan*	*Commonwealth Co-operation in Education*	*Home government*	*Other*	*Total*
Africa	122	–	37	15	193	245
America	171	–	18	2	8	28
Asia–						
Burma	3	11	–	–	3	14
Brunei	–	–	–	1	–	1
China–						
Excluding Taiwan Province	1	–	–	–	–	–
Taiwan Province only	23	–	–	–	–	–
Hong Kong	1,175	–	5	17	1	23
India	156	21	4	–	4	29
Indonesia	509	183	–	13	32	228
Japan	200	–	–	–	–	–
Laos	–	45	–	–	–	45
Malaysia	4,325	154	3	219	19	395
Pakistan	38	23	–	–	1	24
Philippines	108	35	–	–	13	48
Singapore	336	99	2	1	2	104
Sri Lanka	102	54	4	–	6	64
Thailand	347	172	–	5	11	188
Vietnam	2	16	–	–	29	45
Other Asia	97	157	7	5	4	173
Total Asia	*7,422*	*970*	*25*	*261*	*125*	*1,381*
Europe	236	–	2	–	2	4
Oceania–						
Fiji	272	–	21	13	42	76
Nauru	67	–	–	1	–	1
New Caledonia	39	–	–	–	–	–
Papua New Guinea	126	–	–	–	87	87
Solomon Islands	21	–	–	–	13	13
Tonga	37	–	8	1	32	41
Other Oceania	43	–	7	–	25	32
Total Oceania	*605*	–	*36*	*15*	*199*	*250*
Not stated	16	–	–	–	–	–
Total Overseas Students	**8,572**	**970**	**118**	**293**	**527**	**1,908**

(*a*) Excludes practical experience and specialised trainees, exchange students and students not currently undertaking study.

Expenditure on education

The aim of this section is to provide information on the extent and direction of both government and private expenditure on education in recent years. The figures have been compiled in accordance with national accounting concepts. For explanation of these concepts, reference should be made to *Australian National Accounts: National Income and Expenditure*, 1977–78 (5204.0), and also to *Commonwealth Government Finance, Australia*, 1978–79 (5502.0), and *State and Local Government Finance, Australia*, 1977–78 (5504.0), from which figures included in this section have also been taken.

The emphasis given in this section to the outlays of the public sector reflects in part the relative importance of that sector in the provision of education services, but it is also a reflection of the lack of detailed information relating to educational activities in the private sector. Information is given, however, to show the order of magnitude of private sector spending, and also to show aggregate supply of education services and facilities.

Total expenditure on education

Total expenditure on education can be measured by adding together the final expenditures of the public and private sectors.

The figure derived for total expenditure on education can be regarded as a measure of the aggregate supply of education services and facilities and can therefore be related to the supply of goods and services available from domestic production (i.e. gross domestic product). Final consumption expenditure and capital expenditure on education, by sector, can also be related to gross domestic product. These relationships are shown in the following table.

AUSTRALIA: EXPENDITURE ON EDUCATION

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
	$m	$m	$m	$m	$m	$m
Public sector—						
Final consumption expenditure	1,462	1,909	2,770	3,430	4,120	4,688
Expenditure on new fixed assets	328	382	656	695	642	692
Final expenditure(1)	*1,790*	*2,291*	*3,426*	*4,125*	*4,762*	*5,380*
Transfers to the private sector and expenditure on existing fixed assets (net)	196	234	294	357	378	393
Outlay	*1,986*	*2,525*	*3,720*	*4,482*	*5,139*	*5,773*
Private sector—						
Final consumption expenditure	214	208	200	218	243	255
Expenditure on new fixed assets	38	43	74	87	68	89
Final expenditure(2)	*252*	*251*	*274*	*305*	*311*	*344*
Total expenditure on education (1) + (2)	**2,042**	**2,542**	**3,700**	**4,430**	**5,073**	**5,724**
Gross domestic product	**42,538**	**51,034**	**61,253**	**72,164**	**83,216**	**90,681**
	per cent	per cent	per cent	per cent	per cent	per cent
Expenditure on education as percentage of gross domestic product—						
Final consumption expenditure—						
Public	3.4	3.7	4.5	4.8	5.0	5.2
Private	0.5	0.4	0.3	0.3	0.3	0.3
Expenditure on new fixed assets—						
Public	0.8	0.7	1.1	1.0	0.8	0.8
Private	0.1	0.1	0.1	0.1	0.1	0.1
Total expenditure	**4.8**	**5.0**	**6.0**	**6.1**	**6.1**	**6.3**

Private sector

Final expenditure on education by the private sector consists of private final consumption expenditure on education services, and expenditure on new fixed assets—mainly by private non-profit organisations and financed in part by grants from public authorities for private capital purposes. Private final consumption expenditure on education services is an estimate of fees paid by persons to government schools (mainly technical and agricultural colleges), fees and gifts to universities and school fees (other than boarding fees) paid to non-government schools, business colleges, etc. Expenditure on such items as school books, uniforms, etc., and expenditure by parents associations on school equipment is not included, being treated in the Australian National Accounts as private final consumption expenditure on other goods and services (such as clothing, books, household durables, etc.). Private gross fixed capital expenditure in the field of education is estimated from statistics of the value of work done on new building and major additions to buildings of private educational institutions.

Public sector

The statistics presented here for the public sector relate to those outlays which have been identified as being primarily designed to serve the purposes of 'education', broadly as defined in the United Nations System of National Accounts. Included, therefore, are outlays on administration and regulation of school systems and institutions of higher learning and educational research; on provision, inspection and support of primary and secondary schools, colleges and universities, technical training institutions, schools for the handicapped, adult education facilities, pre-school centres, etc.; on scholarships, etc.; and on subsidiary services such as transportation of school children and fare concessions. Expenditure on school medical and dental services and provision of free milk for schoolchildren are not included, as these are regarded as primarily serving the purpose of health.

The outlays of the public authorities engaged in providing education services or financing their provision by other bodies, public or private, have also been classified according to their economic type: final expenditure on goods and services (i.e. final consumption expenditure, and expenditure on new fixed assets); capital financing items (e.g. net expenditure on existing assets); transfers to the private sector (cash benefits, grants for private capital purposes) which become a source of finance for that sector's own final expenditures; and transfers between public authorities (Commonwealth Government grants to the States).

Detailed analyses have not been prepared of the accounts of all public authorities providing or financing education services, but methods of analysis have been adopted which reflect the net effect of the transactions of authorities not fully analysed (such as the State universities). Private non-profit organisations are covered by recording their final consumption expenditure as final expenditure by the public authorities and persons, i.e. the current grants to these organisations by public authorities are treated as public authorities' final expenditure and fees, donations, etc. paid to them by persons are included in private final consumption expenditure. Current outlay of non-profit organisations is therefore covered, being approximately equal to their income from grants and fees. For reasons of practicality, grants for capital purposes by public authorities to private non-profit organisations are treated as transfers, so that the capital expenditure of these organisations is wholly recorded in the private sector.

All public authorities

The outlay on education by all public authorities consists of the final expenditure on goods and services of the Commonwealth Government and State authorities and transfers by these authorities to the private sector. These figures are shown in the following table, and are related to the total outlay (on all functions) by all public authorities in order to give an indication of the share of government resources devoted to education.

ALL PUBLIC AUTHORITIES: OUTLAY ON EDUCATION
($ million)

	1972-73	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*
Commonwealth Authorities—						
Final consumption expenditure	79.2	109.4	167.4	198.9	240.4	264.5
Cash benefits to persons	74.0	93.8	124.3	162.5	194.0	212.6
Grants for private capital purposes	1.3	2.4	7.7	10.5	6.4	6.8
Expenditure on new fixed assets	30.1	32.1	45.1	73.4	62.2	54.2
Expenditure on existing fixed assets (net)	-0.5	0.8	-0.2	-0.3	-0.5	—
Grants to States—						
Current	153.9	433.5	910.8	1,135.5	1,393.9	1,523.5
Capital	105.6	189.1	415.5	319.2	327.8	344.5
Total Commonwealth	*443.6*	*861.1*	*1,670.5*	*1,899.7*	*2,224.3*	*2,406.0*
State authorities—						
Final consumption expenditure	1,380.4	1,797.2	2,598.0	3,224.0	3,871.1	4,412.9
Cash benefits to persons	96.6	104.1	111.6	124.0	123.4	120.1
Grants for private capital purposes	8.5	13.7	31.7	33.0	25.4	32.2
Expenditure on new fixed assets	297.6	349.0	609.2	618.5	574.9	635.1
Expenditure on existing fixed assets (net)	16.6	18.9	19.1	26.9	29.0	21.4
Grants to local government authorities	—	2.2	5.7	6.8	11.1	9.8
Total State	*1,799.7*	*2,285.1*	*3,375.2*	*4,033.3*	*4,634.8*	*5,231.6*
Less Grants from the Commonwealth Government for educational purposes	259.4	622.5	1,326.3	1,454.8	1,721.6	1,868.0
Outlay financed from States' own resources and from non-specific Commonwealth Government grants	1,540.3	1,662.6	2,048.9	2,578.5	2,913.2	3,363.6
Local authorities—						
Final consumption expenditure	2.0	2.9	4.6	7.4	8.5	10.5
Expenditure on new fixed assets	0.3	0.7	1.9	3.2	4.6	2.8
Total local	*2.3*	*3.6*	*6.5*	*10.6*	*13.0*	*13.3*
Less Grants from State authorities for education purposes	–	2.2	5.7	6.8	11.1	9.8
Outlay financed from local authorities own resources	2.3	1.3	0.8	3.8	1.9	3.5
Total outlay on education	**1,986.2**	**2,525.0**	**3,720.2**	**4,482.0**	**5,139.4**	**5,773.1**
Total outlay on all purposes	**13,404.4**	**16,219.3**	**22,878.7**	**27,573.4**	**31,738.7**	**35,718.0**
	per cent	per cent	per cent	per cent	per cent	per cent
Outlay on education as percentage of total outlay	14.8	15.6	16.3	16.3	16.2	16.2

Commonwealth Authorities

Details of outlay on education by authorities of the Commonwealth Government are given in the following table.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION

($ million)

	1975–76	*1976–77*	*1977–78*
General administration, regulation and research—			
Department of Education—			
Salaries, etc., n.e.c.	17.4	18.8	19.4
Administration expenses, n.e.c.	7.0	7.8	8.1
Tertiary Education Commission	–	–	0.7
Building and works, office equipment, etc.	0.2	–	0.3
Grants to the States—			
Research and development	1.1	1.0	0.7
Other	0.1	0.7	1.0
Total general administration, etc.	*25.8*	*28.3*	*30.0*
Transportation of students—			
School bus service—			
Australian Capital Territory	1.4	1.8	1.9
Northern Territory	0.9	1.0	1.2
Total transportation	*2.3*	*2.7*	*3.1*
Primary and secondary education—			
Schools Commission	2.8	2.8	3.1
Education services—			
Australian Capital Territory	61.0	64.8	64.2
Northern Territory	33.6	38.0	40.7
School broadcasts	2.0	1.9	2.0
Student assistance	6.8	7.0	9.2
Child migrant education program	3.9	1.0	0.6
Assistance to isolated children	10.4	11.7	14.1
Grants to non-government schools—			
Australian Capital Territory	8.9	9.9	12.0
Northern Territory	1.3	1.4	1.8
Grants to the States—			
Non-government schools—Recurrent grants	123.6	171.7	191.3
Non-government schools—Capital grants	28.7	19.9	32.0
Government schools—Recurrent grants	186.7	225.8	235.5
Government schools—Capital grants	113.8	127.2	151.2
Child migrant education(*a*)	9.0	0.2	0.3
Schools—joint programs	22.7	24.9	28.9
Other	0.4	0.4	0.8
Total primary and secondary	*615.7*	*708.7*	*787.7*
Vocational Training—			
Commission on Technical and Further Education	0.6	0.6	0.3
Canberra School of Music	0.7	–	–
Technical and Further Education in the A.C.T.	9.4	13.7	15.2
Darwin Community College	5.6	6.7	9.3
Student assistance	20.2	23.8	25.6
Grants to the States—TAFE—			
Apprentice training	0.6	–	–
Recurrent grants	40.1	44.2	45.6
Other Capital grants	24.0	33.7	46.4
Other	0.4	0.6	1.0
Total vocational training	*101.5*	*123.2*	*143.4*

For footnote *see* end of table.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION—*continued*

($ million)

	1975–76	*1976–77*	*1977–78*
University education—			
Australian Universities Commission	0.7	0.7	0.3
Australian National University—			
Student assistance	1.9	1.8	2.1
Other	56.6	70.1	67.9
Student assistance—			
Undergraduate	53.4	66.7	71.6
Postgraduate	7.8	8.8	9.5
Grants to Australian National University residential colleges	0.1	0.2	0.1
School of Public Health and Tropical Medicine (Sydney University)	1.9	2.1	2.3
Grants to the States—Universities	475.2	568.5	626.9
Other	0.3	0.3	0.2
Total university	*597.9*	*719.2*	*781.0*
Other higher education—			
Commission on Advanced Education	0.7	0.7	0.3
Canberra College of Advanced Education	13.0	14.5	16.6
Canberra School of Music	2.3	1.1	1.0
Australian Film and Television School	3.6	3.6	3.7
Student assistance	41.8	50.9	53.0
Commonwealth Teaching Service scholarships	1.1	1.3	1.2
Grants to the States	373.5	446.4	449.5
Other	–	1.0	1.0
Total other higher education	*436.0*	*519.5*	*526.3*
Other education programs—			
Aboriginal education—			
Study grants	1.8	2.3	3.6
Secondary grants	8.6	10.0	12.1
Grants to private non-profit organisations	3.9	3.9	4.5
Grants to the States	6.9	5.9	6.4
Other	22.3	17.5	18.0
Soldiers' children education scheme	3.6	3.5	3.4
Migrant education programs	8.2	9.0	13.1
Pre-school and child care programs—			
Grants to States and local authorities	48.7	52.3	53.0
Other	12.6	11.5	14.5
Adult education programs	3.2	4.6	5.0
Queen's Silver Jubilee Appeal	–	2.0	–
Other	0.6	0.1	1.0
Total other programs	*120.4*	*122.7*	*134.5*
Total outlay on education	**1,899.7**	**2,224.3**	**2,406.0**
of which—			
Current outlay	1,491.3	1,824.0	1,997.1
Capital outlay	408.4	400.3	408.9
Total outlay on all purposes	**21,440.4**	**24,110.2**	**26,882.6**
	per cent	per cent	per cent
Outlay on education as a percentage of total outlay	8.9	9.2	9.0

(*a*) From January 1976 grants to the States for child migrant education under the Schools Commission program are included under various other grants to the States for schools.

As may be seen from the table, Commonwealth Government outlays are directed largely towards financing outlays on education by the States and the private sector. Direct expenditure by the Commonwealth Government relates mainly to the costs of administering its support programs and its own educational research activities, the provision of education services in the internal territories, expenditures of statutory bodies (i.e. the Australian National University, the Canberra College of Advanced Education, and the Australian Broadcasting Commission), expenditure on the education of Aboriginals by the Northern Territory administration, and the costs of the child migrant education program.

COMMONWEALTH AUTHORITIES: CASH BENEFITS TO PERSONS FOR EDUCATION
($'000)

	1975–76	*1976–77*	*1977–78*
Primary and secondary education—			
Student assistance	6,721	6,885	9,013
Australian Capital Territory and Northern Territory scholarships and allowances	92	116	180
Assistance to isolated children	10,398	11,689	14,097
United world colleges scholarships	–	5	10
Total	*17,211*	*18,695*	*23,300*
Vocational training—			
Student assistance	20,191	23,756	25,574
University education—			
Australian National University scholarships	1,871	1,846	2,171
Student assistance—			
Post-graduate	7,685	8,600	9,404
Under-graduate	52,948	66,367	71,240
Australian Agricultural Council scholarships	96	74	46
Wool research studentships	268	202	276
Forestry scholarships	94	80	55
Other	170	182	132
Total	*63,132*	*77,351*	*83,324*
Other higher education—			
Student assistance	35,642	44,507	47,754
Commonwealth Teaching Service scholarships	1,123	1,305	1,184
Pre-school teaching scholarships	3,461	3,219	2,041
Non government institutions-fees	2,655	3,128	3,152
Other	18	20	22
Total	*42,899*	*52,179*	*54,153*
Other education programs—			
Aboriginal study grants	1,772	2,338	3,635
Aboriginal secondary grants	8,621	10,002	12,073
Soldiers' children education scheme	3,553	3,468	3,390
Adult secondary education assistance	3,228	4,596	4,935
Assistance to Vietnamese and Cambodian students	213	73	34
Migrant education services	1,612	1,503	2,228
Other	23	9	–
Total	*19,022*	*21,989*	*26,296*
Total education	**162,455**	**193,970**	**212,647**

Outlay on education in the internal territories

As mentioned previously, the Commonwealth Government is responsible for the provision of education services in the Australian Capital Territory and until 1 July 1979 in the Northern Territory. Details of Commonwealth Government outlay on education in the Territories are given below; further information may be found in Chapter 27, The Territories of Australia.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION IN THE INTERNAL TERRITORIES, 1977-78

Australian Capital Territory	*$'000*
Current Outlay—	
Government schools and pre-schools(*a*)—	
Salaries and wages	50,636
Transportation of students	1,892
Contract school cleaning	2,759
Repairs and maintenance	726
Other	5,273
Non-government schools assistance—	
Per capita grants	7,119
Interest subsidy	1,218
Other grants and allowances	247
Technical and further education—	
Canberra School of Music	850
Canberra School of Art	704
Other TAFE Colleges	7,089
Canberra College of Advanced Education	12,425
Total	*90,938*
Less Fees	360
Total current outlay	*90,578*
Capital outlay—	
Government schools and colleges—	
By National Capital Development Commission—	
Primary and Pre-schools	1,937
Secondary schools	7,241
Technical Colleges	7,628
Other educational buildings	3,320
By Department of Construction—	
Buildings and works	304
Furniture and fittings	622
Plant and equipment	1,095
Canberra College of Advanced Education	4,204
Non-government schools assistance—approved capital programs(*b*)	3,332
Total capital outlay	*29,683*
Total outlay(*c*)	**120,261**

Northern Territory	*$'000*
Current Outlay—	
Government schools and pre-schools—	
Salaries and wages	34,523
Transportation of students	1,342
Contract school cleaning	1,101
Repairs and maintenance	1,601
Other	7,391
Less Aboriginal education included in above items	13,098
Total	*32,860*
Non-government schools assistance—	
Per capita grants	1,041
Interest subsidy	100
Other grants and allowances	27
Aboriginal education—	
Assistance to mission schools	1,698
Government school system	13,098
Darwin Community College—	
Salaries and wages	4,524
Other	1,548
Total	*54,896*
Less Fees	237
Total current outlay	*54,659*
Capital outlay—	
Buildings and works—	
Darwin Reconstruction Commission—	
Aboriginal education	–
Government schools and pre-schools	6,668
Darwin Community College	1,784
Department of Construction—	
Aboriginal education	4,712
Government schools and pre-schools	5,993
Furniture and fittings, plant and equipment—	
Aboriginal education	346
Other	1,767
Non-government schools assistance—	
Approved capital programs(*b*)	658
Assistance to aboriginal missions	–
Total capital outlay	*21,928*
Total outlay	**76,587**

(*a*) Includes pre-school running expenses $2,429,000. (*b*) Grants for private capital purposes. (*c*) Excludes the Australian National University. Commonwealth Government payments to the University in 1977-78 amounted to $81,218,000 for current purposes and $241,000 for capital purposes.

State and local authorities

The following table shows the outlay on education by State and local authorities, financed from their own resources (including general purpose grants from the Commonwealth Government) and from Commonwealth Government grants for educational purposes.

STATE AND LOCAL AUTHORITIES: OUTLAY ON EDUCATION

($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Final consumption expenditure—						
New South Wales	483.5	622.5	905.3	1,102.4	1,301.9	1,475.2
Victoria	419.1	537.6	766.1	946.4	1,153.1	1,330.6
Queensland	173.8	231.0	334.4	433.1	520.3	593.0
South Australia	140.3	189.7	271.0	341.7	413.6	473.5
Western Australia	119.3	158.7	233.9	299.3	362.1	405.2
Tasmania	46.4	60.4	91.9	108.5	128.6	146.0
Total	*1,382.4*	*1,800.0*	*2,602.6*	*3,231.5*	*3,879.5*	*4,423.4*
Expenditure on new fixed assets—						
New South Wales	92.8	111.5	208.6	229.0	173.7	210.2
Victoria	86.9	100.5	170.9	170.1	158.6	157.6
Queensland	37.8	48.0	85.8	74.1	99.9	102.2
South Australia	37.9	41.1	69.2	62.0	66.5	76.4
Western Australia	25.9	32.3	53.3	54.1	51.5	61.3
Tasmania	16.6	16.4	23.2	32.4	29.3	30.2
Total	*297.9*	*349.7*	*611.0*	*621.7*	*579.5*	*637.9*
Expenditure on existing fixed assets (net)	16.6	18.9	19.1	26.9	29.0	21.4
Cash benefits to persons	96.6	104.1	111.6	124.0	123.4	120.1
Grants for private capital purposes	8.5	13.7	31.7	33.0	25.4	32.2
Total outlay on education	**1,802.0**	**2,286.4**	**3,376.0**	**4,037.1**	**4,636.8**	**5,235.0**
of which—						
New South Wales	619.9	784.0	1,167.0	1,393.2	1,540.8	1,755.4
Victoria	547.5	685.7	994.7	1,183.6	1,370.5	1,538.8
Queensland	225.6	295.5	443.0	533.3	648.9	724.9
South Australia	188.2	242.1	354.1	416.6	488.8	556.9
Western Australia	153.9	198.4	297.5	363.4	422.4	475.4
Tasmania	66.7	80.6	119.7	147.2	165.6	183.8

Specific grants to the States for educational purposes

Financial assistance to the States specifically for education purposes constitutes the major item of outlay on education by the Commonwealth Government. The following table summarises the allocation of the various categories of grants to the States for recent years. Subsequent tables show the allocation of these specific purpose grants to individual States for the same period.

GRANTS TO STATES FOR EDUCATIONAL PURPOSES

($'000)

	1972-73	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*
GRANTS FOR CURRENT PURPOSES						
Schools	40,979	85,662	234,579	331,884	421,758	455,622
Technical and further education	–	10,268	24,622	40,127	44,194	45,600
Colleges of Advanced Education	26,655	124,808	239,249	286,766	368,894	395,501
Universities	80,826	200,042	377,990	426,389	511,556	574,465
Aboriginal education	1,167	2,174	3,367	4,978	5,561	6,204
Child migrant education(*a*)	3,956	6,014	9,845	7,370	140	278
Child care and pre-school education	–	4,096	20,377	36,973	40,761	45,000
Educational research	275	406	786	1,062	1,012	809
Total	*153,858*	*433,470*	*910,815*	*1,135,548*	*1,393,876*	*1,523,479*
GRANTS FOR CAPITAL PURPOSES						
Schools	33,019	75,976	199,368	143,631	147,766	183,458
Technical and further education	12,976	18,381	20,375	24,600	33,709	46,425
Colleges of Advanced Education	31,390	40,112	109,916	86,753	77,555	54,006
Universities	26,464	48,966	65,990	48,827	56,958	52,392
Aboriginal education	1,720	2,218	1,224	1,966	361	195
Child migrant education(*a*)	–	995	1,478	1,670	39	–
Child care and pre-school education	–	2,416	17,123	11,797	11,375	8,000
Total	*105,569*	*189,064*	*415,473*	*319,246*	*327,763*	*344,476*
TOTAL GRANTS						
Schools	73,998	161,638	433,947	475,515	569,524	639,080
Technical and further education	12,976	28,649	44,997	64,727	77,903	92,025
Colleges of Advanced Education	58,045	164,920	349,165	373,519	446,449	449,507
Universities	107,290	249,008	443,980	475,216	568,514	626,857
Aboriginal education	2,887	4,392	4,591	6,944	5,922	6,399
Child migrant education(*a*)	3,956	7,009	11,323	9,040	179	278
Child care and pre-school education	–	6,512	37,500	48,770	52,136	53,000
Educational research	275	406	786	1,062	1,012	809
Total	**259,427**	**622,534**	**1,326,288**	**1,454,794**	**1,721,639**	**1,867,955**

(*a*) Grants for child migrant education under the Schools Commission program, commencing January 1976, are included under 'schools'.

TOTAL GRANTS TO STATES FOR SCHOOLS

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Current grants—						
New South Wales	15,046	28,147	84,749	125,395	151,153	171,540
Victoria	13,337	29,125	72,112	100,354	134,939	138,250
Queensland	6,250	13,578	35,604	46,162	56,058	59,853
South Australia	2,529	6,464	19,017	27,452	35,038	38,566
Western Australia	2,903	6,389	17,184	23,194	33,521	35,293
Tasmania	914	1,958	5,912	9,327	11,049	12,120
Total	*40,979*	*85,662*	*234,579*	*331,884*	*421,758*	*455,622*
Capital grants—						
New South Wales	10,637	30,208	71,708	45,886	48,683	57,953
Victoria	9,486	18,011	58,651	49,285	45,056	51,274
Queensland	4,366	8,990	27,968	22,363	28,090	34,264
South Australia	3,805	9,430	19,160	11,056	14,672	17,068
Western Australia	3,017	6,810	15,789	10,564	6,999	16,713
Tasmania	1,708	2,527	6,092	4,477	4,266	6,187
Total	*33,019*	*75,976*	*199,368*	*143,631*	*147,766*	*183,458*
Total grants—						
New South Wales	25,683	58,355	156,457	171,281	199,836	229,493
Victoria	22,823	47,136	130,763	149,639	179,995	189,524
Queensland	10,616	22,568	63,572	68,525	84,148	94,117
South Australia	6,334	15,894	38,177	38,508	49,710	55,634
Western Australia	5,920	13,199	32,973	33,758	40,520	52,006
Tasmania	2,622	4,485	12,004	13,804	15,315	18,307
Total	**73,998**	**161,638**	**433,947**	**475,515**	**569,524**	**639,080**

TOTAL GRANTS TO STATES FOR TECHNICAL AND FURTHER EDUCATION

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Current grants—						
New South Wales	–	5,801	10,333	17,652	16,714	19,184
Victoria	–	1,772	6,794	9,653	13,866	11,163
Queensland	–	715	2,262	4,643	4,537	4,885
South Australia	–	889	2,639	3,770	4,502	4,737
Western Australia	–	974	2,168	3,322	3,606	4,521
Tasmania	–	117	426	1,087	969	1,110
Total	–	*10,268*	*24,622*	*40,127*	*44,194*	*45,600*
Capital grants—						
New South Wales	5,040	6,873	5,859	8,919	12,262	15,162
Victoria	3,350	5,500	6,585	7,376	9,333	12,728
Queensland	1,910	1,945	4,073	3,334	4,439	8,735
South Australia	1,130	2,063	2,800	1,208	2,320	4,837
Western Australia	1,166	1,311	587	2,876	3,690	2,993
Tasmania	380	689	471	887	1,665	1,970
Total	*12,976*	*18,381*	*20,375*	*24,600*	*33,709*	*46,425*
Total grants—						
New South Wales	5,040	12,674	16,192	26,571	28,976	34,346
Victoria	3,350	7,272	13,379	17,029	23,199	23,891
Queensland	1,910	2,660	6,335	7,977	8,976	13,620
South Australia	1,130	2,952	5,439	4,978	6,822	9,574
Western Australia	1,166	2,285	2,755	6,198	7,296	7,514
Tasmania	380	806	897	1,974	2,634	3,080
Total	**12,976**	**28,649**	**44,997**	**64,727**	**77,903**	**92,025**

TOTAL GRANTS TO STATES FOR COLLEGES OF ADVANCED EDUCATION AND TEACHERS COLLEGES

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Current grants—						
New South Wales	5,525	28,935	62,122	69,089	90,831	98,303
Victoria	10,443	46,711	86,119	111,307	135,960	141,522
Queensland	2,906	14,438	27,230	33,999	48,962	56,616
South Australia	2,638	13,518	24,531	28,838	38,221	41,724
Western Australia	4,015	17,247	32,359	36,522	46,242	48,080
Tasmania	1,128	3,959	6,888	7,011	8,678	9,256
Total	*26,655*	*124,808*	*239,249*	*286,766*	*368,894*	*395,501*
Capital grants—						
New South Wales	9,691	7,644	41,197	23,716	27,200	11,886
Victoria	9,275	13,680	32,452	34,313	25,971	18,968
Queensland	3,806	5,078	13,438	9,181	14,630	7,899
South Australia	3,639	6,196	12,579	6,886	4,276	8,457
Western Australia	3,554	7,222	7,281	7,344	5,074	5,198
Tasmania	1,425	292	2,969	5,313	404	1,598
Total	*31,390*	*40,112*	*109,916*	*86,753*	*77,555*	*54,006*
Total grants—						
New South Wales	15,216	36,579	103,319	92,805	118,031	110,189
Victoria	19,718	60,391	118,571	145,620	161,931	160,490
Queensland	6,712	19,516	40,668	43,180	63,592	64,515
South Australia	6,277	19,714	37,110	35,724	42,497	50,181
Western Australia	7,569	24,469	39,640	43,866	51,316	53,278
Tasmania	2,553	4,251	9,857	12,324	9,082	10,854
Total	**58,045**	**164,920**	**349,165**	**373,519**	**446,449**	**449,507**

TOTAL GRANTS TO STATES FOR UNIVERSITIES

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Current grants—						
New South Wales	32,155	79,572	149,997	168,831	199,633	222,893
Victoria	21,896	53,468	99,798	110,717	134,763	152,808
Queensland	10,664	26,169	49,876	57,185	69,427	78,127
South Australia	7,898	19,808	38,067	43,107	51,000	56,872
Western Australia	5,683	14,610	27,978	32,891	40,795	46,532
Tasmania	2,530	6,415	12,274	13,658	15,938	17,234
Total	*80,826*	*200,042*	*377,990*	*426,389*	*511,556*	*574,465*
Capital grants—						
New South Wales	10,522	16,889	22,526	21,754	17,553	17,910
Victoria	7,327	14,128	17,330	9,516	10,460	11,842
Queensland	2,545	5,624	9,821	6,453	11,638	7,335
South Australia	2,697	7,050	7,320	3,421	6,426	6,635
Western Australia	2,531	4,581	7,714	5,094	9,822	7,664
Tasmania	842	694	1,279	2,589	1,061	1,008
Total	*26,464*	*48,966*	*65,990*	*48,827*	*56,958*	*52,392*
Total grants—						
New South Wales	42,677	96,461	172,523	190,585	217,186	240,802
Victoria	29,223	67,596	117,128	120,233	145,223	164,650
Queensland	13,209	31,793	59,697	63,638	81,065	85,462
South Australia	10,595	26,858	45,387	46,528	57,426	63,507
Western Australia	8,214	19,191	35,692	37,985	50,617	54,196
Tasmania	3,372	7,109	13,553	16,247	16,999	18,242
Total	**107,290**	**249,008**	**443,980**	**475,216**	**568,514**	**626,857**

TOTAL GRANTS TO STATES FOR ABORIGINAL EDUCATION

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Current grants—						
New South Wales	229	482	546	904	931	1,013
Victoria	167	275	262	212	576	634
Queensland	293	193	361	866	836	858
South Australia	279	489	614	990	1,151	1,479
Western Australia	193	732	1,582	1,979	2,035	2,184
Tasmania	6	4	3	27	32	36
Total	*1,167*	*2,174*	*3,367*	*4,978*	*5,561*	*6,204*
Capital grants—						
New South Wales	98	101	–	505	1	–
Victoria	60	–	67	87	–	–
Queensland	981	988	249	971	8	84
South Australia	156	625	108	377	233	50
Western Australia	425	505	799	25	119	61
Tasmania	–	–	–	1	–	–
Total	*1,720*	*2,218*	*1,224*	*1,966*	*361*	*195*
Total grants—						
New South Wales	327	583	546	1,409	932	1,013
Victoria	227	275	329	299	576	634
Queensland	1,274	1,181	610	1,837	844	942
South Australia	435	1,114	722	1,367	1,384	1,529
Western Australia	618	1,237	2,381	2,004	2,154	2,245
Tasmania	6	4	3	28	32	36
Total	**2,887**	**4,392**	**4,591**	**6,944**	**5,922**	**6,399**

GRANTS TO STATES FOR CHILD MIGRANT EDUCATION

(Excluding grants under the Schools Commission program, commencing January 1976)

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Current grants—						
New South Wales	1,521	2,238	3,890	2,720	67	165
Victoria	1,819	2,732	4,482	3,559	46	41
Queensland	98	165	255	195	2	15
South Australia	326	587	810	514	22	16
Western Australia	138	157	229	233	2	41
Tasmania	53	135	179	149	2	–
Total	*3,956*	*6,014*	*9,845*	*7,370*	*140*	*278*
Capital grants—						
New South Wales	–	90	475	405	2	–
Victoria	–	550	709	943	5	–
Queensland	–	50	106	11	–	–
South Australia	–	165	92	275	31	–
Western Australia	–	100	89	–9	–	–
Tasmania	–	40	6	45	–	–
Total	–	*995*	*1,478*	*1,670*	*39*	–
Total grants—						
New South Wales	1,521	2,328	4,365	3,125	69	165
Victoria	1,819	3,282	5,191	4,502	51	41
Queensland	98	215	361	206	2	15
South Australia	326	752	902	789	53	16
Western Australia	138	257	318	224	2	41
Tasmania	53	175	185	194	2	–
Total	**3,956**	**7,009**	**11,323**	**9,040**	**179**	**278**

TOTAL GRANTS TO STATES FOR RECURRENT EXPENDITURE ON EDUCATIONAL RESEARCH

($'000)

	1972-73	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*
Current grants—						
New South Wales	91	97	151	253	259	184
Victoria	87	142	227	431	314	240
Queensland	60	109	296	190	216	166
South Australia	13	18	58	116	139	135
Western Australia	17	26	33	59	70	75
Tasmania	7	14	21	14	14	9
Total	**275**	**406**	**786**	**1,062**	**1,012**	**809**

TOTAL GRANTS TO STATES(*a*) FOR CHILD CARE AND PRE-SCHOOL EDUCATION

($'000)

	1973-74	*1974-75*	*1975-76*	*1976-77*	*1977-78*
Current grants—					
New South Wales	1,281	5,417	9,030	8,532	9,815
Victoria	1,226	6,660	11,452	12,722	14,001
Queensland	436	1,734	5,356	6,970	7,267
South Australia	690	3,233	5,025	5,601	6,184
Western Australia	385	2,316	4,390	4,930	5,662
Tasmania	78	1,017	1,720	2,006	2,071
Total	*4,096*	*20,377*	*36,973*	*40,761*	*45,000*
Capital grants—					
New South Wales	160	4,819	3,165	6,592	3,678
Victoria	288	2,637	1,345	4,160	4,202
Queensland	1,003	3,806	2,584	314	–
South Australia	514	2,773	1,498	160	31
Western Australia	166	1,911	1,441	144	89
Tasmania	285	1,177	1,764	5	–
Total	*2,416*	*17,123*	*11,797*	*11,375*	*8,000*
Total grants—					
New South Wales	1,441	10,236	12,195	15,124	13,493
Victoria	1,514	9,297	12,797	16,882	18,203
Queensland	1,439	5,540	7,940	7,284	7,267
South Australia	1,204	6,006	6,523	5,761	6,215
Western Australia	551	4,227	5,831	5,074	5,751
Tasmania	363	2,194	3,484	2,011	2,071
Total	**6,512**	**37,500**	**48,770**	**52,136**	**53,000**

(*a*) There were no grants to the States for this purpose prior to 1973-74.

CHAPTER 13

AGRICULTURAL INDUSTRIES

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AGRICULTURAL INDUSTRIES

This chapter is divided into the following major parts:—Introduction; Sources of statistics and definitions of units; Structural statistics (provides data on the legal arrangements, size and industry class of the business organisations operating within the agricultural sector); Financial statistics (provides estimates of the financial performance of business organisations engaged in agricultural activities); Value of agricultural commodities produced and indexes of values at constant prices and average unit values; Apparent consumption of foodstuffs and nutrients; Land tenure and land utilisation; Crop statistics; Livestock statistics; Livestock products; Rural improvements and employment.

Introduction

The development of Australian rural industries has been determined by interacting factors such as profitable markets, the opening up of new land (including the development of transport facilities) and technical and scientific achievements. Subsistence farming, recurring gluts, low prices and losses to farmers were gradually overcome by the development of an export trade. Profitable overseas markets for merino wool and wheat, and the introduction of storage and refrigerated shipping for the dairying and meat industry combined to make the agricultural sector Australia's main export earner. Until the late 1950's, agricultural products comprised more than 80 per cent of the value of Australia's exports. Since then, the proportion of Australia's exports coming from the agricultural sector has declined markedly; the value of agricultural products exported was only 43 per cent of the total value of exports in 1978–79.

However, this decline in importance has been due not to a decline in agricultural activity but rather to an increase in the quantity and values of the exports of the mining and manufacturing sectors. In fact, the agricultural sector experienced an increase in total output over that period. One interesting aspect of this increase in output is that it was accompanied by a large reduction in the size of the agricultural labour force. The number of males working permanently on rural holdings, for example, decreased from 356,000 in 1955 to 244,000 in 1975, implying a large growth in productivity within the sector.

Sources of statistics and definitions of units

Agricultural Census

The major source of the statistics in this chapter is the Agricultural Census conducted at 31 March each year. This collects a wide range of information from agricultural establishments with agricultural activity covering the physical aspects of agriculture such as area and production of crops, fertilisers used, number of livestock disposed of, etc. In conjunction with the census, certain supplementary collections are conducted in some States where this has proved expedient, e.g. where the harvesting of certain crops has not been completed by 31 March (apples, potatoes, etc.), special returns covering the crops concerned are collected after the completion of the harvest.

In the past three years the ABS has been gradually excluding from the statistics establishments whose contribution to agricultural production is small. While this has reduced the number of establishments appearing in publications, the effect on statistics of production of major commodities is minimal. Statistics of minor commodities normally associated with the smaller scale operations may be affected to a greater extent.

From 1976–77, data for an establishment has been included in these statistics if the legal entity operating the establishment had an Estimated Value of Agricultural Operations (EVAO) of $1,500 or more. Details of the method used in the calculation of EVAO are contained in the publication *Agricultural Sector: Structure of Operating Units, Australia* (7102.0).

For 1975–76, the EVAO criterion was the same as for later years, but establishments with areas of 10 hectares or more were also included, even if EVAO was less than $1,500. Prior to 1975–76, all agricultural establishments with areas of one hectare or more were included. In addition, establishments of less than one hectare tended to be included where significant agricultural activity was undertaken, e.g. poultry farms, commercial market gardens and nurseries.

Integrated Agricultural Register

The Agricultural Census is one of the sources of information used to update the Integrated Agricultural Register (IAR). The IAR contains information about the area, type, legal status, level of activity and location of units engaged in agriculture, and is used for the despatch of most of the agricultural statistical collections. The IAR was originally compiled by adding data in a special census of economic units conducted in 1974 to existing data relating to physical characteristics of agricultural establishments. Details of the structure of economic units engaged in agriculture are compiled from the IAR. These economic units, in hierarchical order, are:

- *Enterprise* (the second level of economic unit). The enterprise is that unit comprising all operations in Australia of a single operating legal entity. (The term 'single legal entity' means a sole trader, partnership, company, trust, co-operative or estate in the private sector, or a department, local government authority or statutory authority in the government sector).
- *Establishment* (the smallest economic unit). The establishment covers all operations carried out by one enterprise at a single physical location.

Agricultural Finance Survey (AFS)

The AFS collects detailed financial statistics from a sample of agricultural enterprises. The main purpose of the survey is to produce estimates of the financial performance of the agricultural sector and its component industries.

Other Statistical Collections

The ABS conducts a number of other collections to obtain agricultural statistics. These include collections from wool brokers and dealers, livestock slaughterers and other organisations involved in the marketing and selling of agricultural commodities.

Structural statistics

The following tables provide information relating to the structure of operating units during 1977–78. Although the definitions of the operating units have been provided above, the following terminology is also used:

- *Industry.* As set out in the *Australian Standard Industrial Classification* (ASIC) (1201.0 and 1202.0).This publication provides details of the methodology used in determining the industry class of an economic unit.
- *Estimated Value of Agricultural Operations* (EVAO). This is determined by valuing the physical crop and livestock information collected in the Agricultural Census.

A further explanation of this terminology and more detailed statistics are given in the publication *Agricultural Sector: Structure of Operating Units, Australia* (7102.0).

NUMBER OF UNITS BY TYPE OF UNIT, 1977-78

Unit	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Australia*
Agricultural establishments . . .	50,852	48,104	33,947	19,994	16,871	6,016	176,155
Agricultural enterprises	48,806	46,626	32,185	19,236	15,756	5,793	169,143

AGRICULTURAL ENTERPRISES BY INDUSTRY AND ESTIMATED VALUE OF OPERATIONS: 1977-78

	Estimated value of operations ($'000)											
Industry of enterprise	*2–9*	*10–19*	*20–29*	*30–39*	*40–49*	*50–59*	*60–74*	*75–99*	*100–149*	*150–199*	*200+*	*Total*
Cereal grains	1,838	2,451	2,495	2,205	1,640	1,345	1,345	1,207	994	332	308	16,160
Oilseeds n.e.c.	189	210	140	84	58	38	40	47	51	18	25	900
Sheep-cereal grains	1,161	3,394	4,269	3,684	2,743	2,059	2,335	2,059	1,589	566	407	24,266
Meat cattle-cereal grains	1,093	1,151	857	557	342	258	245	212	150	32	45	4,942
Sheep-meat cattle	2,975	3,159	2,128	1,445	959	585	605	522	386	119	148	13,031
Sheep	4,707	4,089	2,960	2,069	1,321	925	902	841	559	183	165	18,721
Meat cattle	18,791	5,360	2,038	964	568	335	355	278	195	73	133	29,090
Milk cattle	3,105	8,126	6,576	2,822	1,252	625	406	240	124	29	29	23,334
Pigs	1,084	754	505	349	254	178	173	147	131	40	75	3,690
Poultry	214	192	211	166	141	112	134	159	185	93	250	1,857
Fruit	4,098	3,725	2,062	1,248	778	466	403	323	244	91	94	13,532
Vegetables	1,761	1,702	1,142	751	527	378	352	339	317	139	200	7,608
Multi-purpose	90	95	77	64	50	24	24	22	12	6	5	469
Sugar cane	101	235	439	877	1,055	841	913	893	709	212	175	6,450
Peanuts	15	70	79	58	54	28	28	26	6	3	1	368
Tobacco	2	32	131	247	189	116	101	86	50	12	15	981
Cotton	—	4	3	3	3	7	6	12	22	14	60	134
Nurseries and specialised horticultural activities (except forest nurseries)	426	285	142	170	75	35	68	63	50	23	57	1,394
Agriculture n.e.c.	1,396	405	144	69	44	35	19	41	28	14	21	2,216
Total	**43,046**	**35,439**	**26,398**	**17,832**	**12,053**	**8,390**	**8,454**	**7,517**	**5,802**	**1,999**	**2,213**	**169,143**

AGRICULTURAL ENTERPRISES BY INDUSTRY, LEGAL STATUS AND ESTIMATED VALUE OF OPERATIONS: 1977-78

	Legal status						
	Sole operator	*Family partnership*	*Other partnership*	*Private incorporated company*	*Public incorporated company*	*Other(a)*	*Total enterprises*
Industry of enterprise—							
Cereal grains	4,449	10,297	407	593	14	400	16,160
Oilseeds (n.e.c.)	264	571	31	22	–	12	900
Sheep-cereal grains	5,109	17,158	501	954	19	525	24,266
Meat cattle-cereal grains	1,516	2,878	144	293	6	105	4,942
Sheep-meat cattle	4,479	7,012	419	707	21	393	13,031
Sheep	6,716	10,119	511	797	22	556	18,721
Meat cattle	12,645	13,348	830	1,467	44	756	29,090
Milk cattle	7,898	14,139	395	438	19	445	23,334
Pigs	1,219	2,259	72	98	3	39	3,690
Poultry	535	1,114	53	133	4	18	1,857
Fruit	4,693	8,120	256	330	8	125	13,532
Vegetables	2,682	4,521	146	189	6	64	7,608
Multi-purpose	148	294	7	17	1	2	469
Sugar cane	1,442	4,644	122	126	1	115	6,450
Peanuts	99	251	6	5	–	7	368
Tobacco	257	656	32	13	2	21	981
Cotton	20	76	11	25	–	2	134
Nurseries and specialised horticultural activities (except forest nurseries)	446	714	80	141	4	9	1,394
Agriculture n.e.c.	1,055	998	60	74	2	27	2,216
Total	**55,672**	**99,169**	**4,083**	**6,422**	**176**	**3,621**	**169,143**
Estimated value of operations ($'000)—							
2–9	21,811	18,420	897	924	28	966	43,046
10–19	14,183	19,013	683	737	23	800	35,439
20–29	8,034	16,632	555	622	15	540	26,398
30–39	4,479	11,993	398	571	19	372	17,832
40–49	2,495	8,488	304	528	10	228	12,053
50–59	1,509	5,988	231	467	13	182	8,390
60–74	1,243	6,209	290	530	14	168	8,454
75–99	951	5,592	235	572	11	156	7,517
100–149	566	4,243	252	635	6	100	5,802
150–199	190	1,351	101	309	8	40	1,999
200+	211	1,240	137	527	29	69	2,213
Total, all size groups	**55,672**	**99,169**	**4,083**	**6,422**	**176**	**3,621**	**169,143**

(*a*) Includes co-operative societies, trusts and estates.

AGRICULTURAL ESTABLISHMENTS OPERATED BY AGRICULTURAL AND NON-AGRICULTURAL ENTERPRISES BY INDUSTRY OF ESTABLISHMENT: 1977-78

Industry of establishment	*Operated by agricultural enterprises*	*Operated by non-agricultural enterprises*
Cereal grains	16,582	175
Oilseeds n.e.c.	921	26
Sheep-cereal grains	24,748	154
Meat cattle-cereal grains	5,054	98
Sheep-meat cattle	13,310	230
Sheep	19,250	219
Meat cattle	30,553	1,185
Milk cattle	23,603	155
Pigs	3,732	103
Poultry	1,878	61
Fruit	13,625	315
Vegetables	7,671	84
Multi-purpose	484	9
Sugar cane	6,568	49
Peanuts	378	4
Tobacco	990	4
Cotton	139	–
Nurseries and specialised horticultural activities (except forest nurseries)	1,416	49
Agriculture n.e.c.	2,265	68
Total	**173,167**	**2,988**

AGRICULTURAL ESTABLISHMENTS OPERATED BY AGRICULTURAL ENTERPRISES BY INDUSTRY OF ENTERPRISE AND INDUSTRY OF ESTABLISHMENT: 1977-78

	Industry of establishment														
Industry of enterprise	*Cereal grains*	*Oil-seeds n.e.c.*	*Sheep-cereal grains*	*Meat cattle-cereal grains*	*Sheep-meat cattle*	*Sheep*	*Meat cattle*	*Milk cattle*	*Pigs*	*Poultry*	*Fruit*	*Vege-tables*	*Multi-pur-pose*	*Agri-culture n.e.c.*	*Tot esta lis men*
Cereal grains	16,330	7	97	21	28	53	111	7	12	1	2	3	2	10	16,68
Oilseeds n.e.c.	6	904	1	3	–	1	8	–	–	–	–	1	–	–	92
Sheep-cereal grains	111	–	24,547	17	52	147	69	8	5	–	4	1	1	7	24,96
Meat cattle-cereal grains	24	–	8	4,958	11	9	91	3	2	–	1	2	1	3	5,11
Sheep-meat cattle	9	–	26	12	13,109	91	136	7	2	–	1	–	–	4	13,39
Sheep	26	1	41	6	62	18,903	73	5	–	–	5	–	–	4	19,12
Meat cattle	12	3	6	20	27	27	29,715	29	9	1	3	5	4	23	29,88
Milk cattle	28	–	7	4	6	4	146	23,525	2	–	5	1	2	4	23,79
Pigs	9	–	4	1	2	–	17	3	3,696	1	–	–	1	2	3,73
Poultry	7	–	3	1	–	1	15	4	2	1,875	2	–	–	1	1,91
Fruit	4	–	6	1	4	7	34	2	–	–	13,590	3	–	6	13,65
Vegetables	5	2	2	3	3	5	33	3	2	–	5	7,652	3	3	7,72
Multi-purpose	2	–	–	–	1	–	4	1	–	–	2	2	467	1	48
Agriculture n.e.c. (*a*)	9	4	–	7	5	2	101	6	–	–	5	1	3	11,688	11,83
Total	**16,582**	**921**	**24,748**	**5,054**	**13,310**	**19,250**	**30,553**	**23,603**	**3,732**	**1,878**	**13,625**	**7,671**	**484**	**11,756**	**173,1**

(*a*) Includes sugar cane, peanuts, tobacco, cotton, nurseries and specialised horticultural activities and agriculture, n.e.c.

Financial statistics

Estimates of selected financial aggregates of agricultural enterprises are shown in the following tables. The notation 'S.E.%' appearing in some of the tables stands for 'standard error %' which is a measure of the sampling error resulting from the use of sampling techniques as opposed to the results which would have been obtained from a comparable complete collection. A more detailed explanation of standard errors and other terms used in the tables, as well as more detailed statistics, is given in the publication *Agricultural Sector: Financial Statistics, Australia* (7507.0).

ESTIMATES OF SELECTED FINANCIAL AGGREGATES OF AGRICULTURAL ENTERPRISES, 1973-74 TO 1977-78

	1973-74(a)		*1974-75*		*1975-76*		*1976-77*		*1977-78*	
Item	*$m*	*S.E. %*	*$m*	*S.E. %*	*$m*	*S.E. %*	*$m*	*S.E. %*	*$m*	*S.E. %*
Sales from crops	1,599.6	3	2,345.5	2	2,545.2	3	2,900.4	2	2,281.5	2
Sales from livestock	2,079.8	3	1,099.7	5	1,103.5	3	1,404.3	2	1,677.9	2
Sales from livestock products	1,661.5	3	1,382.7	2	1,461.4	3	1,632.4	2	1,682.0	1
Turnover	5,319.3	2	4,985.8	2	5,237.1	2	6,133.6	1	5,874.2	1
Purchases and selected expenses	2,550.4	2	2,278.1	2	2,514.4	3	2,690.4	1	2,838.7	1
Value added	3,114.5	n.a.	2,897.3	3	2,783.1	5	3,310.0	1	2,869.9	1
Adjusted value added	2,785.4	n.a.	2,576.0	4	2,449.1	2	2,924.6	2	2,472.6	2
Gross operating surplus	2,356.9	n.a.	2,083.8	4	1,907.4	5	2,401.7	2	1,896.4	2
Cash operating surplus	1,783.7	n.a.	1,658.7	3	1,594.1	3	2,291.8	2	1,801.6	2
Total net capital expenditure	643.8	4	620.0	4	801.7	4	820.9	3	772.7	3
Gross indebtedness	2,921.6	4	2,972.5	4	3,422.2	4	3,397.0	3	3,395.8	3

(*a*) Not strictly comparable with later years—*see* Explanatory Notes for the publication *Estimates of Turnover, Expenditure and Cash Operating Surplus of Agricultural Producers, Australia, 1971-72 to 1973-74* (7506.0).

ESTIMATES OF SELECTED FINANCIAL AGGREGATES OF AGRICULTURAL ENTERPRISES, 1977-78

($ million)

Item	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.(a)*
Sales from crops	658.5	341.8	697.9	187.0	342.7	39.2	2,281.5
Sales from livestock	568.6	346.9	286.7	156.0	200.3	57.6	1,677.9
Sales from livestock products	499.4	455.5	189.9	170.4	280.8	65.1	1,682.0
Turnover	1,797.9	1,190.6	1,229.6	530.3	854.7	169.9	5,874.2
Purchases and selected expenses	866.7	591.5	553.3	266.9	426.9	82.4	2,838.7
Value added	863.9	572.6	664.5	234.7	399.9	87.2	2,869.9
Adjusted value added	727.7	491.3	587.0	198.8	350.6	77.4	2,472.6
Gross operating surplus	543.9	397.4	446.7	142.6	293.6	59.2	1,896.4
Cash operating surplus	534.7	365.4	406.0	149.0	287.7	49.7	1,801.6
Total net capital expenditure	217.1	151.2	172.3	69.0	133.7	19.4	772.7
Gross indebtedness	1,002.7	668.6	678.5	323.5	552.4	101.8	3,395.8

(*a*) Includes Northern Territory and Australian Capital Territory and estimates for multi-state enterprises.

ESTIMATES OF SELECTED FINANCIAL AGGREGATES OF AGRICULTURAL ENTERPRISES, BY INDUSTRY (ASIC)(*a*): 1977-78

($ million)

Item	*Cereal grains, oilseeds (n.e.c.) 0111-0112*	*Sheep—cereal grains 0113*	*Meat cattle—cereal grains 0114*	*Sheep—meat cattle 0115*	*Sheep 0116*	*Meat cattle 0117*	*Milk cattle 0118*
Sales from crops	481.9	510.2	57.9	14.7	48.9	22.7	29.0
Sales from livestock	127.4	282.3	72.6	294.9	243.8	370.1	98.0
Sales from livestock products	62.4	355.3	8.5	210.9	379.4	20.9	454.8
Turnover	696.4	1,181.1	149.1	544.4	696.7	451.9	597.7
Purchases and selected expenses	332.9	574.7	73.7	256.9	332.6	247.8	263.7
Value added	351.0	593.8	61.6	235.5	334.9	174.1	321.7
Adjusted value added	295.3	515.0	47.2	193.9	287.9	127.7	288.1
Gross operating surplus	245.5	433.2	31.8	126.5	212.3	71.9	251.0
Cash operating surplus	221.5	403.5	35.7	150.4	211.3	67.0	232.4
Total net capital expenditure	129.9	176.1	25.4	50.7	61.8	56.3	71.8
Gross indebtedness	470.5	718.2	146.9	314.8	385.2	410.4	332.1

Item	*Pigs 0119*	*Poultry 0121-0122*	*Fruit 0131-0133*	*Vegetables 0141-0142*	*Multi-purpose farming 0150*	*Other agriculture 0161-0166*	*All industries 01*
Sales from crops	11.5	3.7	333.2	228.0	9.3	530.6	2,281.5
Sales from livestock	111.5	38.9	5.5	18.1	3.4	11.5	1,677.9
Sales from livestock products	11.0	156.1	2.2	6.2	1.7	12.6	1,682.0
Turnover	140.5	206.6	356.6	259.2	15.9	578.0	5,874.2
Purchases and selected expenses	92.6	135.9	153.2	123.0	8.5	243.4	2,838.7
Value added	46.8	70.6	204.7	134.0	6.9	334.3	2,869.9
Adjusted value added	39.7	62.5	187.6	120.4	5.9	301.5	2,472.6
Gross operating surplus	30.3	42.7	124.9	87.5	3.4	235.5	1,896.4
Cash operating surplus	25.3	39.4	114.7	79.8	3.5	217.2	1801.6
Total net capital expenditure	16.0	21.3	42.7	33.0	2.6	85.1	772.7
Gross indebtedness	65.5	54.2	135.3	117.4	6.2	239.2	3,395.8

(*a*) Australian Standard Industrial Classification (Interim Revised Sub-Division 01: Agriculture. 1974).

Value of agricultural commodities produced and indexes of values at constant prices and average unit values

Definitions

Gross value of commodities produced is the value placed on recorded production at the wholesale prices realised in the principal market.

Marketing costs include freight, cost of containers, commission and other charges incurred in marketing.

Local value of commodities produced is the value placed on commodities at the place of production and is ascertained by deducting marketing costs from the gross value.

Average unit values are calculated by dividing the gross value of each commodity produced by the total production of each corresponding commodity.

Indexes of values at constant prices are the indexes of the gross value of commodities produced at constant prices, i.e. they are measures of change in value after the direct effects of price changes have been eliminated.

VALUES OF AGRICULTURAL COMMODITIES: 1977-78

	Gross value of agricultural commodities produced	*Marketing costs*	*Local value of commodities produced*	*Indexes of Agricultural Commodities produced and output (Base year: 1974–75 = 1000)*	
				Value of constant prices	*Average unit gross value*
	$m	$m	$m		
Crops	3,037.7	430.7	2606.9	932	1001
Livestock slaughterings and other disposals	1,969.7	189.1	1,780.6	1312	1468
Livestock products	1,970.6	133.3	1,837.4	870	1372
Total agriculture	**6,978.0**	**753.1**	**6,224.9**	(*a*)**1012**	(*a*)**1187**

(*a*) Excludes seed, feed and fodder consumed or retained on farms.

Publications

Two preliminary estimates of value of commodities produced are published: *Gross Value of Agricultural Commodities Produced, First Estimates, Australia* (7501.0) and *Value of Agricultural Commodities Produced, Second Estimates, Australia* (7502.0). A final publication, *Value of Agricultural Commodities Produced, Australia* (7503.0), contains Indexes of Values at Constant Prices and Average Unit Values.

Indexes of Agricultural Commodities Produced

The indexes of values at constant prices of agricultural commodities produced and output are measures of change in value after the direct effects of price changes have been eliminated. The average unit value indexes measure changes in the average unit gross values of the included commodities. They are not price indexes in the generally accepted sense because they measure not only the effects of price changes but reflect also the effects of variations in the quality and composition of the commodities.

Both indexes, while consistent in scope with those of previous years, have been based on revised weights and a reference base of 1974–75 = 1000. The indexes of values at constant prices are weighted by the average unit values for the three years ended 1975–76 and the unit value indexes are weighted by the average of quantities produced during the three years ended 1975–76.

For further details on how these and earlier series were calculated *see* Year Book No. 61, pages 1063–65 and *Value of Agricultural Commodities Produced, Australia* (7503.0).

GROSS VALUE OF AGRICULTURAL COMMODITIES 1973-74 TO 1978-79
(Sheep and wool in perspective)

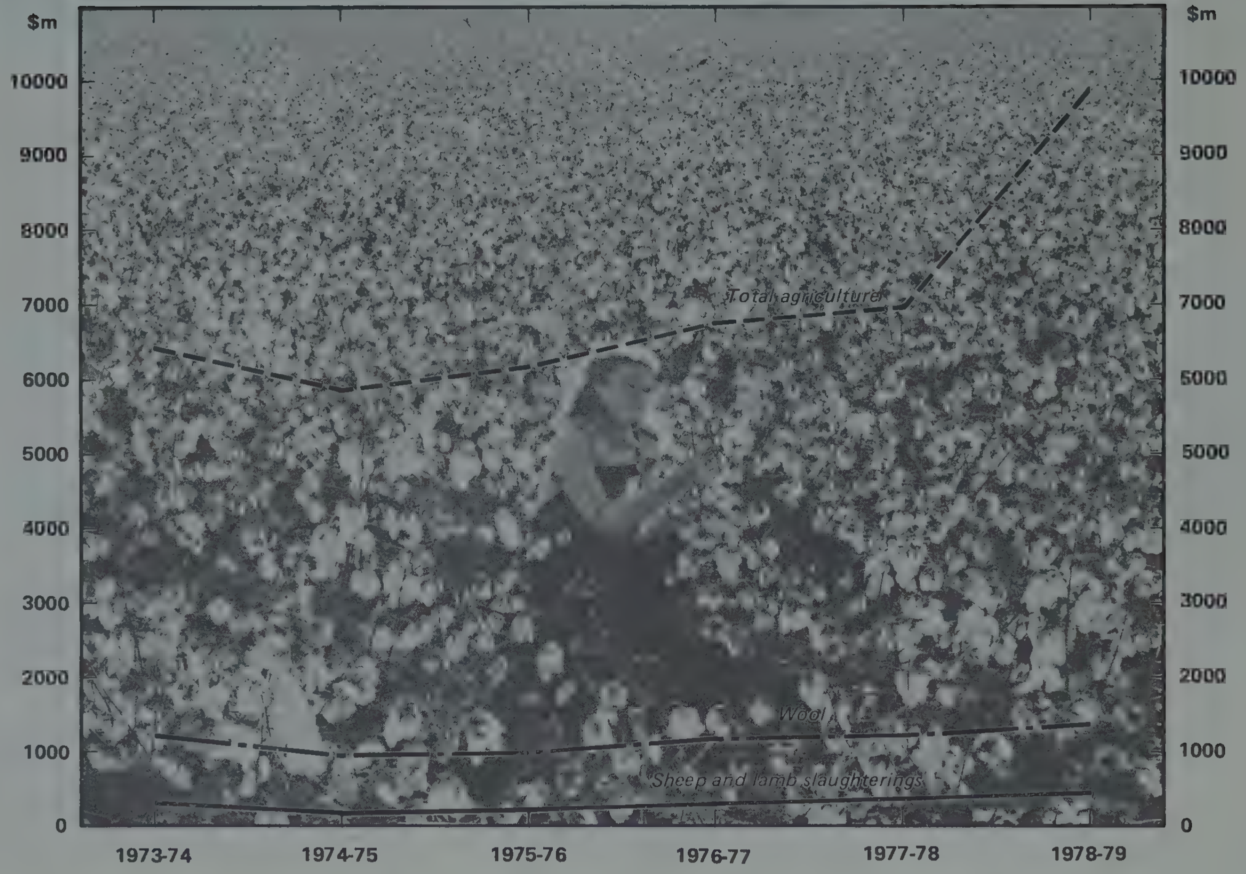


PLATE 35

GROSS VALUE OF AGRICULTURAL COMMODITIES

($ million)

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79p*
Crops—						
Wheat for grain	1,312	1,256	1,249	1,051	934	2,141
Barley for grain	190	257	314	295	205	329
Sugar cane cut for crushing	219	491	436	472	421	385
Fruit	217	267	269	291	320	370
Grapes	83	101	102	129	142	148
Vegetables	240	256	274	290	322	371
Pasture and grasses	178	150	129	148	119	805
Other crops	420	427	475	510	575	
Total crops	*2,859*	*3,205*	*3,248*	*3,186*	*3,038*	*4,549*
Livestock slaughterings and other disposals(*a*)—						
Cattle and calves	1,069	523	706	1,011	1,177	2,155
Sheep and lambs	321	178	204	299	360	444
Pigs	173	178	183	197	213	244
Poultry	132	140	153	178	220	256
Total	*1,696*	*1,019*	*1,246*	*1,686*	*1,970*	*3,099*
Livestock products—						
Wool	1,229	953	1,000	1,173	1,206	1,354
Wholemilk	468	519	490	521	549	669
Eggs	148	172	179	182	201	205
Honey and beeswax	12	10	11	9	15	16
Total	*1,857*	*1,653*	*1,680*	*1,885*	*1,971*	*2,244*
Total agriculture	**6,412**	**5,877**	**6,174**	**6,757**	**6,978**	**9,892**

(*a*) Includes adjustment for net exports of live animals.

INDEXES OF VALUES AT CONSTANT PRICES OF AGRICULTURAL COMMODITIES PRODUCED AND OUTPUT

(*Base year:* 1974–75 = 1000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Crops—						
Barley for grain	687	953	1000	1264	1132	948
Oats for grain	842	1267	1000	1305	1227	1133
Wheat for grain	554	1050	1000	1060	1035	828
Other grain cereals	1016	1113	1000	1185	1183	988
Sugar cane(*a*)	930	945	1000	1078	1144	1150
Fruit and nuts	1078	934	1000	884	870	827
Grapes	856	769	1000	986	1154	1045
Vegetables	959	839	1000	948	1031	1082
All other crops(*b*)	923	1082	1000	869	874	918
Total	*775*	*1002*	*1000*	*1036*	*1035*	*932*
Livestock slaughterings and other disposals—						
Cattle and calves(*c*)	938	854	1000	1192	1288	1415
Sheep and lambs	1224	871	1000	1083	1107	1116
Pigs	1349	1205	1000	993	1057	1137
Poultry	849	1021	1000	1078	1151	1297
Total(*d*)	*1034*	*920*	*1000*	*1134*	*1210*	*1312*
Livestock products—						
Wool	927	883	1000	951	879	851
Wholemilk	1107	1064	1000	978	956	888
Eggs	1036	984	1000	989	898	949
Total(*e*)	*985*	*942*	*1000*	*962*	*900*	*870*
Agricultural output(*f*)	**877**	**950**	**1000**	**1043**	**1045**	**1012**

(*a*) Cut for crushing and planting. (*b*) Includes pastures and grasses; excludes crops for green feed and silage. (*c*) Includes dairy cattle slaughtered. (*d*) Component series based on carcass weight. (*e*) Includes honey and beeswax. (*f*) Excludes seed, feed and fodder consumed or retained on farms.

INDEXES OF AVERAGE UNIT VALUE OF AGRICULTURAL COMMODITIES PRODUCED AND OUTPUT

(*Base year:* 1974–75 = 1000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Crops—						
Barley for grain	515	778	1000	967	1014	842
Oats for grain	628	885	1000	999	1018	1023
Wheat for grain	502	994	1000	939	813	899
Other grain cereals	740	1018	1000	1034	1072	1119
Sugar cane(*a*)	506	472	1000	825	842	745
Fruit and nuts	785	870	1000	1142	1252	1444
Grapes	751	1073	1000	1027	1098	1347
Vegetables	731	1111	1000	1125	1162	1163
All other crops(*b*)	873	922	1000	1076	1231	1394
Total	*597*	*884*	*1000*	*972*	*956*	*1001*
Livestock slaughterings and other disposals—						
Cattle and calves(*c*)	2083	2393	1000	1136	1506	1595
Sheep and lambs	1280	2058	1000	1013	1462	1740
Pigs	516	807	1000	1039	1051	1053
Poultry	764	928	1000	1014	1109	1213
Total(d)	*1478*	*1845*	*1000*	*1081*	*1361*	*1468*
Livestock products—						
Wool	1408	1461	1000	1104	1401	1488
Wholemilk	816	852	1000	968	1063	1214
Eggs	660	875	1000	1051	1182	1232
Total(e)	*1132*	*1198*	*1000*	*1054*	*1266*	*1372*
Agricultural output(*f*)	**924**	**1172**	**1000**	**1012**	**1119**	**1187**

(*a*) Sugar cane cut for crushing and planting. (*b*) Includes pastures and grasses. Excludes crops for green feed or silage. (*c*) Includes dairy cattle slaughtered. (*d*) Component series based on value per unit of carcass weight. (*e*) Includes honey and beeswax. (*f*) Excludes seed, feed and fodder consumed or retained on farms.

Apparent consumption of foodstuffs and nutrients

Estimates of consumption in Australia are compiled by deducting net exports from the sum of production and imports and allowing for recorded movement in stocks of the respective commodities. The term "consumption" is used in a specialised sense, since the quantities actually measured are broadly the quantities available for consumption at a particular level of distribution, ie ex-market, ex-store or ex-factory depending on the method of marketing and/or processing. Because consumption of foodstuffs is measured, in general, at "producer" level no allowance is made for wastage before they are consumed. The effect of ignoring wastage is ultimately to overstate consumption but it is believed that more efficient distribution and storage methods in recent years have cut down wastage. Furthermore, it is likely that many of the foodstuffs are being supplemented by householders self-supplies over and above the broad estimate already made.

The estimates of consumption per capita have been derived by dividing the total apparent consumption of each commodity or commodity group in a given year by the mean population of Australia in the same period.

More detailed information on the consumption of foodstuffs is contained in the publications *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Apparent Consumption of Tea and Coffee, Australia* (4307.0). For some commodities, more timely information is contained in the publication *Apparent Consumption of Selected Foodstuffs, Australia (Preliminary)* (4315.0).

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS

(Kg—unless otherwise indicated)

Commodity	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78p*
Grain products—						
Flour (including flour for bread making)	73.8	76.8	74.2	73.9	72.8	67.6
Table rice	2.2	2.0	2.4	2.4	2.4	2.5
Breakfast foods	6.7	6.6	6.6	7.1	7.9	8.0
Total grain products	*82.9*	*85.7*	*83.2*	*83.6*	*83.1*	*78.1*
Fruit and fruit products—						
Citrus fruit(*a*)	30.1	31.3	36.7	39.6	32.8	35.8
Other fresh fruit	35.7	33.5	32.7	33.3	33.0	29.9
Jams, conserves, etc.	2.5	2.2	2.5	1.9	2.0	1.8
Dried fruits	2.3	2.4	1.8	2.2	2.0	2.0
Canned and bottled fruit	10.3	10.2	10.1	9.7	10.1	10.6
Total (fresh fruit equivalent)	*90.1*	*89.4*	*91.2*	*95.7*	*88.2*	*88.3*
Meat—						
Carcass meat (total)	82.1	71.9	96.2	95.8	92.3	89.8
Beef and veal	40.1	41.1	64.3	67.6	69.7	68.1
Mutton	15.7	8.6	9.0	7.0	4.7	3.7
Lamb	18.5	15.4	17.7	16.7	13.4	13.8
Pigmeat	7.7	6.7	5.1	4.4	4.4	4.3
Offal	5.7	4.4	5.2	5.9	6.2	6.5
Canned meat (canned weight)	2.5	2.4	2.3	1.7	1.7	1.7
Bacon and ham (cured carcass weight)	5.4	5.4	4.9	5.2	5.6	6.3
Total (carcass equivalent weight)	*98.6*	*86.7*	*111.1*	*110.8*	*108.1*	*107.0*
Poultry (dressed weight)	13.1	13.6	13.6	14.5	15.8	16.9
Vegetables—						
White potatoes	47.9	45.5	51.7	46.6	48.9	50.7
Other root and bulb vegetables	16.7	17.5	17.7	15.9	16.0	17.0
Tomatoes	16.9	14.9	10.1	14.3	14.6	13.1
Leafy and green vegetables	20.0	21.0	21.6	23.0	22.4	23.0
Other vegetables	19.0	18.7	19.2	18.2	19.7	20.9
Total (fresh equivalent weight)	*120.4*	*117.6*	*120.3*	*118.1*	*121.5*	*124.7*
Fish, fresh and frozen (edible weight)	3.1	3.8	2.9	3.1	3.1	3.2
Eggs and egg products	12.4	12.4	12.4	12.5	12.4	12.4
Equivalent number of eggs	218	219	219	220	219	219
Milk and milk products—						
Fluid whole milk (litres)	120.6	114.5	106.6	101.1	104.8	102.4
Condensed, concentrated and evaporated milk	4.3	4.0	4.2	4.8	5.0	4.9
Powdered milk	6.0	5.0	5.4	5.2	3.6	4.6
Infants' and invalids' food	1.4	1.5	2.1	1.4	1.1	1.2
Cheese (natural equivalent weight)	5.1	5.3	5.2	5.7	5.3	6.6
Oils and fats—						
Butter	8.2	7.7	7.2	6.8	5.8	5.0
Margarine—Table	1.6	1.7	2.2	3.1	4.7	5.7
Other	4.0	4.0	3.8	3.9	3.5	2.9
Sugar(*b*)	n.a.	54.4	53.7	55.6	53.7	54.5
Nuts (in shell)—						
Peanuts	1.8	1.3	1.1	2.0	1.4	1.8
Tree nuts	2.7	3.0	3.2	3.3	3.2	3.1
Beverages—						
Tea	2.0	1.9	2.0	1.9	2.0	1.6
Coffee(*c*)	1.2	1.4	1.1	1.5	1.8	1.2
Aerated and carbonated waters (litres)	64.7	63.4	59.6	65.0	68.1	68.8
Beer (litres)	129.5	139.0	140.3	137.4	136.2	137.6
Wine (litres)	9.8	11.0	12.3	13.0	13.7	14.3
Spirits (litres alcohol)	1.2	1.2	1.2	1.1	1.3	1.3

(*a*) Includes fresh equivalent of manufactured goods. (*b*) In terms of refined sugar; includes the sugar content of syrups, honey, glucose and manufactured foods. (*c*) Coffee and coffee products in terms of roasted coffee.

Nutrients

The nutrients table has been compiled by the Nutrition Section and the Central Statistical Unit of the Commonwealth Department of Health and is based on the estimates of the quantity of foodstuffs available for per capita consumption.

For further information on the level of nutrient intake *see* the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

ESTIMATED SUPPLY OF NUTRIENTS AVAILABLE FOR CONSUMPTION(*a*)
(Per capita per year)

Nutrient	*Unit*	*1975–76*	*1976–77*	*1977–78p*
Protein—				
Animal	g	71.6	69.2	70.1
Vegetable	g	31.7	31.5	30.1
Total	g	*103.3*	*100.7*	*100.2*
Fat (from all sources)	g	121.0	119.3	119.1
Carbohydrate	g	415.6	407.4	403.5
Calcium	mg	923.6	859.2	920.1
Iron	mg	15.7	15.7	15.7
Vitamin A activity	μg	1,558.8	1,580.6	1,616.2
Vitamin C (*b*)—				
Unadjusted	mg	98.0	92.5	95.5
Adjusted	mg	73.4	67.5	71.9
Thiamin (*b*)—				
Unadjusted	mg	1.5	1.6	1.5
Adjusted	mg	1.3	1.3	1.3
Riboflavin	mg	3.1	3.1	3.2
Niacin (*b*)—				
Unadjusted	mg	22.1	22.1	21.9
Adjusted	mg	38.6	38.2	38.0
Energy value	kJ	13,854	13,595	13,486

(*a*) Figures are based on conversion factors calculated from the revised and enlarged edition of S. Thomas and M. Corden *Metric Tables of Composition of Australian Food*, Canberra, 1977. (*b*) Data for vitamin C, Thiamin and Niacin show adjustments made for loss of nutrients in cooking and the extra niacin obtained from the metabolism of protein.

Land tenures

Descriptions of the land tenure systems of the States and the Territories, and conspectuses of land legislation in force were provided in Year Book No. 48 and previous issues (*see also* Year Book No. 50, page 85 and the List of Special Articles preceding the General Index in this Year Book).

Disposal of crown lands

For a description of the provisions that exist in all mainland States for the disposal of crown lands for public purposes, for unconditional purchase and occupation under lease or licence, *see* Year Book No. 61, page 742.

Closer settlement and war service settlement

Particulars of these are given in issues of the Year Book up to No. 22, and in Year Book Nos 48, 55 and 61.

Alienation and occupation of crown lands

LAND TENURES,
(Thousand hectares)

		Private lands		Crown lands		
State or Territory	*Data: reference date*	*Alienated*	*In process of alienation*	*Leased or licensed*	*Other(a)*	*Total area*
New South Wales	30.6.78	27,125	1,517	42,716	8,785	80,143
Victoria	30.6.79	13,830	127	2,338	6,465	22,760
Queensland	31.12.78	12,784	19,218	129,487	11,212	172,700
South Australia	30.6.78	6,726	72	59,747	31,892	98,438
Western Australia	31.12.78	16,225	2,554	99,319	134,452	252,550
Tasmania	30.6.78	2,517	120	165	4,028	6,830
Northern Territory	30.6.79	74	–	82,882	51,664	134,620
Australian Capital Territory(*b*) .	1.4.79	–	1	48	194	243
Australia	..	**79,281**	**23,609**	**416,702**	**248,692**	**768,284**

(*a*) Occupied by Crown; reserved; unoccupied; unreserved. (*b*) Includes Jervis Bay.

Land utilisation in Australia

The table on land tenures in Australia, above, shows the proportions of Australia and of the States and Territories which are held under freehold tenure ('alienated or in process of alienation') or leasehold tenure ('leased or licensed'). The total area under tenure differs from the total area of rural establishments (shown below) by amounts which represent unused land or land held for non-agricultural purposes. In general, land in the more fertile regions tends to be mostly freehold, while the less productive land is held under Crown lease or licence.

AREA OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY
(Million hectares)

At 31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust. (incl. A.C.T.)*
1974 . . .	68.9	15.2	154.5	64.8	114.7	2.6	79.5	500.3
1975 . . .	68.9	15.5	154.2	63.8	115.6	2.5	79.3	499.9
1976 . . .	68.8	15.1	155.6	63.6	116.3	2.5	78.8	500.7
1977 . . .	66.0	14.5	155.0	63.1	115.2	2.3	75.4	491.5
1978 . . .	64.8	14.7	155.1	62.5	114.5	2.3	75.5	489.4
1979p . . .	65.1	14.7	155.2	62.9	114.5	2.2	77.7	492.5

LAND UTILISATION: AUSTRALIA
(Million hectares)

				Total	
Year	*Area used for crops(a)*	*Area under sown pastures and grasses*	*Balance (b)*	*Area of establishments*	*Percentage of Australian land area (768,284,000 hectares)*
1973–74	15.1	27.2	458.0	500.3	65.1
1974–75	13.8	28.6	457.5	499.9	65.1
1975–76	14.5	27.7	458.5	500.7	65.2
1976–77	15.0	26.2	450.3	491.5	64.0
1977–78	16.8	25.9	446.7	489.4	63.7
1978–79p	17.4	26.5	448.5	492.5	64.1

(*a*) Excludes duplication on account of area double cropped. (*b*) Used for grazing, lying idle, fallow, etc.

The total area of rural establishments in 1978–79 constituted 64.1 per cent of the Australian land area, the remainder being urban areas, State forests and mining leases, with an overwhelming proportion of unoccupied land (mainly desert). The balance data includes large areas of arid or rugged land held under grazing licences but not always used for grazing. Balance data also includes variable amounts of fallow land.

The crop area data represents up to 3.5 per cent of the area of rural establishments and emphasises the relative importance of the livestock industry in Australia—sheep in the warm, temperate, semi-arid lands and beef cattle in the tropics. The diminishing rural labour force (*see* page 362) is used on large areas of land with low carrying capacity.

Crops

For this section, statistics relating to crop areas and production have been obtained from the annual Agricultural Census. The census returns are collected in all States and the two Territories at 31 March each year and relate mainly to crops sown in the previous twelve months.

Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a special collection after the harvest is completed. Additional statistics relating to value of agricultural commodities produced, manufactured production and overseas trade are also included. Agricultural Census data published in this section refer to the 'agricultural' year ended 31 March, while other data refer to the year ended 30 June; but for most purposes there will be little error involved in considering 'agricultural year' data as applying to the financial year.

The following table shows the area of crops in each of the States and Territories of Australia since 1860–61.

AREA OF CROPS(*a*): 1860–61 TO 1978–79

('000 hectares)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1860–61 . . .	100	157	2	145	10	62	–	–	475
1870–71 . . .	156	280	21	325	22	64	–	–	868
1880–81 . . .	245	627	46	846	26	57	–	–	1,846
1890–91 . . .	345	822	91	847	28	64	–	–	2,197
1900–01 . . .	990	1,260	185	959	81	91	–	–	3,567
1910–11 . . .	1,370	1,599	270	1,112	346	116	–	–	4,813
1920–21 . . .	1,807	1,817	316	1,308	730	120	–	1	6,099
1930–31 . . .	2,756	2,718	463	2,196	1,939	108	1	2	10,184
1940–41 . . .	2,580	1,808	702	1,722	1,630	103	–	2	8,546
1949–50 . . .	2,295	1,881	832	1,518	1,780	114	–	4	8,424
1954–55 . . .	2,183	1,904	1,049	1,711	2,069	122	–	2	9,040
1959–60 . . .	2,888	1,949	1,184	1,780	2,628	130	1	3	10,564
1964–65 . . .	4,182	2,621	1,605	2,414	3,037	163	2	4	14,028
1965–66 . . .	3,663	2,517	1,667	2,440	3,513	156	2	3	13,961
1966–67 . . .	5,027	2,738	1,863	2,626	3,568	180	2	4	16,007
1967–68 . . .	4,590	2,208	1,883	2,191	3,592	106	6	2	14,578
1968–69 . . .	5,509	2,529	2,071	2,596	3,839	110	6	3	16,665
1969–70 . . .	4,999	2,212	2,208	2,290	3,912	98	6	2	15,728
1970–71 . . .	3,967	1,732	1,791	1,998	3,826	80	2	1	13,397
1971–72 . . .	4,186	1,925	2,017	2,278	3,751	70	7	1	14,234
1972–73 . . .	4,329	1,943	1,963	2,122	3,814	80	12	1	14,265
1973–74 . . .	4,628	1,981	1,786	2,451	4,133	74	6	1	15,060
1974–75 . . .	4,089	1,772	1,898	2,257	3,754	67	7	1	13,845
1975–76 . . .	4,285	1,851	2,010	2,116	4,208	60	8	1	14,539
1976–77 . . .	4,520	1,943	2,026	2,036	4,417	65	2	1	15,010
1977–78 . . .	4,984	2,163	2,107	2,564	4,902	70	1	1	16,791
1978–79p . .	4,950	2,235	2,297	2,826	4,996	81	1	1	17,386

(*a*) The classification of crops was revised in 1971–72 and adjustments made to statistics back to 1967–68. After 1966–67 lucerne for green feed, hay and seed, and pasture cut for hay are excluded.

NOTE: From 1970–71 data exclude duplication on account of area double cropped.

The wide range of climatic and soil conditions over the agricultural regions of Australia has resulted in a diversity of crops being grown throughout the country. Generally, cereal crops (excluding rice and sorghum) are grown in all States over wide areas, while other crops are confined to specific locations in a few States. However, scanty or erratic rainfall, limited potential for irrigation and unsuitable soils or topography have restricted intensive agriculture. Despite this, agricultural production has increased over time to meet increased demands both in Australia and overseas.

The following table provides an Australian summary of the area, production and gross value of the principal crops.

CROPS: AREA, PRODUCTION AND GROSS VALUE

	Area ('000 hectares)			*Production ('000 tonnes)*			*Gross value ($m)*		
Crop	*1976–77*	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*
Cereals for grain—									
Barley	2,321	2,803	2,777	2,847	2,383	3,995	295	205	329
Grain sorghum	532	394	470	956	714	n.y.a.	80	59	75
Maize	53	45	51	144	130	n.y.a.	13	12	15
Oats	995	1,076	1,355	1,072	990	1,756	74	69	116
Rice	92	91	110	530	490	692	59	61	80
Wheat	8,956	9,955	10,189	11,667	9,370	18,083	1,051	934	2,141
Legumes for grain	180	186	171	76	100	n.y.a.	25	30	38
Crops for hay—									
Barley	17	17	16	36	30	39	1	–	n.y.a.
Oats	208	221	223	684	604	75	23	27	n.y.a.
Wheat	59	68	51	159	146	150	6	7	n.y.a.
Crops for green feed, silage—									
Barley	57	76	55	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Forage sorghum	68	68	68						
Oats	464	573	594						
Wheat	39	54	24						
Sugar cane cut for crushing	288	295	252	23,344	23,493	21,457	472	421	385
Tobacco	9	9	10	16	15	n.y.a.	56	54	58
Cotton	35	42	47	83	132	n.y.a.	40	61	79
Peanuts	31	30	36	32	39	n.y.a.	14	20	25
Linseed	15	44	17	16	28	15	3	5	3
Rapeseed	8	19	20	9	16	21	2	3	4
Safflower	13	39	85	6	26	n.y.a.	1	5	11
Sunflower	135	220	256	75	158	n.y.a.	22	37	43
Fruit (excl. grapes)	96	94	98	–	–	–	291	320	370
Orchard fruit	81	79	83	–	–	–	227	242	n.y.a.
Oranges	n.a.	n.a.	n.a.	322	357	369	52	63	n.y.a.
Apples				302	258	n.y.a.	83	78	100
Pears				105	108	n.y.a.	22	24	27
Peaches				66	62	64	16	17	19
Small and berry fruit	1	1	1	–	–	–	7	9	n.y.a.
Bananas	8	7	7	115	98	112	38	50	47
Pineapples	6	6	6	112	99	105	16	16	18
Grapes	71	71	71	728	694	n.y.a.	129	142	148
Vegetables	108	105	122	–	–	–	308	322	371
Potatoes	34	36	40	728	772	n.y.a.	89	94	117
Total, all crops (excluding pastures)	**15,010**	**16,791**	**17,386**	–	–	–	**3,056**	**2,919**	**4,468**

In the tables that follow, crop statistics are shown in these groupings: wheat, coarse grains, rice, oilseeds, sugar, vegetables, fruit, grapevines and other crops such as tobacco, mushrooms, nurseries and fodder crops.

Cereal grains

In Australia, cereals are conveniently divided into autumn-winter-spring growing ('winter' cereals) and spring-summer-autumn growing ('summer' cereals). Winter cereals such as wheat, oats, barley and rye are usually grown in rotation with some form of pasture such as subterranean clover, medics and clover. In recent years, alternative winter crops such as rapeseed, field peas and lupins have been introduced into cereal rotation in areas where they had not previously been grown. Rice, maize, sorghum and the millets are summer cereals and, except for rice, are also used for stock feed. In Northern Queensland there are two rice growing seasons—a dry season winter crop and a wet season summer crop.

Cereals for grain form a significant percentage of both the value of Australia's agricultural commodities and of the country's export earnings. The following table shows the significance of cereal grains in the last 6 years.

CEREAL GRAINS IN AUSTRALIA: A PERSPECTIVE

	Cereal grains(a)					
Year	*Gross value*	*Export value f.o.b.*	*Total agriculture gross value*	*Total Australian exports—all produce value f.o.b.*	*Gross value of cereal grains as a percentage of gross value of agriculture*	*Export value of cereal grains as a percentage of total Australian exports*
	$m	$m	$m	$m	per cent	per cent
1973–74	1,715.0	747.4	6,412	6,707	26.7	11.1
1974–75	1,701.3	1,466.4	5,877	8,457	28.9	17.3
1975–76	1,798.2	1,376.4	6,174	9,340	29.1	14.7
1976–77	1,583.3	1,264.9	6,774	11,376	23.4	11.1
1977–78	1,353.7	1,261.9	6,978	11,922	19.4	10.6
1978–79p	2,768.2	1,093.2	9,892	13,797	28.0	7.9

(*a*) Principally wheat, barley, oats, grain sorghum, rice and maize, with panicum/millet, canary seed and rye being minor cereals.

For more up-to-date and detailed information on cereals for grain *see* the following publications: *Agricultural Sector: Structure of Operating Units, Australia* (7102.0), *Rural Land Use, Improvements and Agricultural Machinery, Australia* (7103.0), *Principal Agricultural Statistics: First Estimates, Australia* (7201.0), *Crop and Fruit Statistics, Australia* (*Preliminary*) (7301.0), *Crop Statistics, Australia* (7302.0), *Cereal Grains: Estimates of Intended Sowings, Australia* (7304.0), *Cereal Grains: Estimates of Area Sown, Australia* (7305.0), *Wheat Statistics, Australia* (7307.0), *Gross Value of Agricultural Commodities Produced: First Estimates, Australia* (7501.0), *Value of Agricultural Commodities Produced: Second Estimates, Australia* (7502.0), *Value of Agricultural Commodities Produced, Australia* (7503.0).

Wheat

Wheat is grown extensively in all States except Tasmania, and is the most important crop in Australia in terms of area, production and value of exports.

The present limits of the wheat belt have been established after considerable fluctuations over the last half century. Prominent factors in the early development of the industry were the increase in population following the discovery of gold and the redistribution of labour after the surface gold had been won. The economic depression of 1893 interrupted its progress, but its subsequent recovery was assisted by the invention of mechanical appliances, the use of superphosphate as an aid to production, and the introduction of new and more suitable varieties of wheat for Australian conditions. The establishment of closer settlement schemes and the settling of returned soldiers and others on the land were additional factors in its expansion.

Two further factors which have contributed to the development of the industry are the organisation of overseas marketing and of research. As a large proportion of the wheat crop is exported, wheat marketing plays an important role. The Australian Wheat Board was constituted in September 1939, under *National Security* (*Wheat Acquisition*) *Regulations*, to purchase, sell or dispose of wheat or wheat products and to manage or control all matters connected with the handling, storage, protection, shipment, etc. of wheat acquired and such other matters as were necessary to give effect to the regulations. The major purpose in founding the Australian Wheat Board was the protection of wheat farmers by lowering financial risks on each crop. The strength of the Australian Wheat Board is derived from its ability to act as the single Australian agent for wheat sales abroad and to use that function as a basis for careful co-ordination of sales efforts and market development. The *Wheat Stabilization Act* 1948 reconstituted the Australian Wheat Board to administer the first stabilisation plan, the concept of which was to provide growers with a "guaranteed price" for a specific quantity of exported wheat. Since then there have been six Five Year Stabilisation Plans. Details of the wheat marketing and pricing arrangements of the latest plan to operate over the five seasons commencing on 1 October 1979, are shown below.

Under the new plan the Australian Wheat Board continues to exercise sole authority for the export marketing of wheat, flour and certain wheaten products and for the marketing of wheat in Australia. However, wheatgrowers will have the option of delivering wheat direct to buyers under the authority of the Australian Wheat Board. It is intended that the Board be authorised to issue permits which enable growers to deliver wheat to other than licensed receivers. The plan provides for a formula determination of prices for wheat for human consumption on the domestic market, adjusted annually, and for the price of stockfeed and industrial wheats, to be determined in the light of market conditions, by the Australian Wheat Board, with an upper limit at the figure set for grain for human consumption. The price of wheat for human consumption on the domestic market will be fixed in the enabling legislation for the initial year. For subsequent years the price will be determined by a formula which takes account of movements in export prices and domestic costs. Movements in the formula price from year to year would be subject to a 20 per cent limit. A loading on the domestic price to cover the cost of shipping wheat to Tasmania will be applied to wheat sold for human consumption only.

World wheat

Under the influence of high prices and expansionary production policies, world producers are attempting to expand production to cope with a low level of wheat stocks and increasing wheat consumption. Forecasts of longer term prospects in the world wheat economy are extremely hazardous in view of the critical influence and unpredictability of the weather but, because of the need for longer term planning, wheat producers must consider the more important factors likely to influence future development. The international wheat market is partly residual and sensitive to changes in the overall world supply/demand situation, and producers in Australia and the other main exporting countries need to be able to adjust rapidly to fluctuations in the world market.

Wheat varieties and standards of wheat

The breeding of wheat suitable to local conditions has long been established in Australia. William Farrer (1845–1905) did invaluable work in pioneering this field and the results of his labour and the continued efforts of those who have followed him have proved of immense benefit to the industry. Their efforts have resulted in the development of disease-resistant varieties, better average yields, and a greater uniformity of sample, with which have accrued certain marketing advantages as well as an improvement in the quality of wheat grown. A detailed table of wheat varieties sown appears in *Wheat Statistics, Australia* (7307.0). The continuation of wheat breeding activities has led to expansions in the areas sown to wheat as well as in yields per hectare, but it is difficult to distinguish progress due to improved wheat varieties from that due to wider rotations, increased mechanisation and superphosphate-increased pastures.

The quality of wheat (its flour yielding capacity, protein content, hardness and physical dough properties) is governed by a combination of the wheat variety and the climatic and growing characteristics of its region of origin. Since 1954, Australian wheat has been marketed under distinct classifications. This practice of segregation has been widely employed to enhance the marketability of Australian wheat, and in recent years up to twenty-two separate grades have been made available for export. Within the Australian wheatbelt there exist wide ranges of soil fertility, rainfall, day length and ambient temperature, and, by developing varieties which complement the growing conditions, it has been possible to produce varieties with qualities suitable for virtually every commercial application. Particulars of Australian wheat standards may be found in *Wheat Statistics, Australia* (7307.0).

Central Grain Research Laboratory

In 1976, the Australian Wheat Board established this laboratory in Sydney as an addition to the facilities of the Bread Research Institute of Australia. The main functions of the laboratory are to test and report on the Australian crop, to analyse and compare competitor wheats from other countries and to develop research programs to aid the marketing of wheat.

High Court Action

In an action brought before the full High Court of Australia, four stock-feed traders contested the validity of State and Commonwealth Wheat Stabilisation legislation which gave the Board the right to demand all wheat be delivered to it rather than be sold interstate by the traders themselves. It was argued that this contravened Section 92 of the Commonwealth of Australia Constitution Act which guarantees freedom of trade between the States. The High Court ruled (September 1978) that the Wheat Industry Stabilisation scheme as provided in the various Acts was constitutionally valid, notwithstanding Section 92. It was held that the proper regulation of trade among the States does not necessarily contravene Section 92 even if the regulation has within it an element of prohibition. An action involving a challenge to the High Court ruling was commenced in the High Court in May 1979.

WHEAT: AREA, PRODUCTION AND RECEIVALS

Season	Area		Production		Australian Wheat Board receivals(a)
	For grain	All purposes	Grain	Gross value	
	'000 ha	'000 ha	'000 tonnes	$m	'000 tonnes
1973–74	8,948	9,066	11,987	1,311.9	11,200
1974–75	8,308	8,406	11,357	1,256.4	10,705
1975–76	8,555	8,633	11,982	1,249.2	11,258
1976–77	8,956	9,053	11,800	1,050.8	10,932
1977–78	9,955	10,078	9,370	934.2	8,542
1978–79p	10,189	10,263	18,083	2,141.0	(b)17,446

(a) Australian Wheat Board receivals are for the season commencing 1 December; production data is for the year ending 31 March. (b) Receivals to 20 October 1979.

WHEAT FOR GRAIN: AREA AND PRODUCTION, BY STATE

Season	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia
AREA ('000 hectares)							
1973–74	2,883	1,258	395	1,432	2,978	3	8,948
1974–75	2,646	1,141	489	1,220	2,810	2	8,308
1975–76	2,774	1,073	576	958	3,171	2	8,555
1976–77	3,116	1,103	582	839	3,314	2	8,956
1977–78	3,377	1,270	607	1,090	3,609	1	9,955
1978–79p	3,103	1,338	747	1,295	3,704	1	10,189
PRODUCTION ('000 tonnes)							
1973–74	3,962	1,490	526	1,795	4,211	4	11,987
1974–75	3,809	2,091	692	1,486	3,277	2	11,357
1975–76	4,310	1,579	830	1,139	4,122	2	11,982
1976–77	5,141	1,780	794	832	3,249	4	11,800
1977–78	3,846	1,497	569	511	2,945	2	9,370
1978–79p	6,640	2,998	1,968	2,086	4,387	3	18,083

PRODUCTION AND DISPOSAL OF WHEAT FOR GRAIN

('000 tonnes)

Season	1972–73	1973–74	1974–75	1975–76	1976–77	1977–78
Production	6,590	11,987	11,357	11,982	11,800	9,370
Less balance held on farms for—						
Seed usage	547	505	513	535	598	610
Feed and other uses	604	282	139	189	270	218
Gross receivals	5,439	11,200	10,705	11,258	10,932	8,542
Opening stocks(a)	1,448	478	1,882	1,658	2,665	2,137
Total availability for sale	6,887	11,678	12,587	12,916	13,597	10,679
Export shipments—						
Wheat	3,855	7,124	8,254	7,962	9,502	7,910
Flour and wheat products(a)	282	294	296	271	261	178
Domestic sales—						
Flour(a)	1,272	1,362	1,334	1,304	1,261	1,227
Stockfeed	923	911	1,006	620	380	431
Breakfast feeds etc. (a)	47	46	54	68	55	43
Total disposal	6,379	9,737	10,944	10,225	11,459	9,789
Availability (–) Disposals	508	1,941	1,643	2,691	2,138	830
Closing stocks(a)	478	1,882	1,658	2,665	2,137	816
Apparent wastage	30	59	–15	26	1	74

(a) Wheat and flour in terms of wheat.

NOTE: The Australian Wheat Board is the source of receivals, export shipments, domestic sales data, and opening and closing stocks; the ABS records other data.

Other wheat statistics (Sixth Wheat Industry Stabilisation Plan)

Prices. The *home consumption price* is the price of Australian Standard White (ASW) bulk wheat f.o.r. (ports) sold by the Australian Wheat Board on the home market. It includes a loading of a variable amount to meet freight charges on wheat shipped to Tasmania. Prior to 1973–74 the home consumption price varied according to the end usage, viz. human consumption, manufacture of flour for industrial use, basic stockfeed or stockfeed where the purchaser undertook to buy the entire season's requirements from the Wheat Board.

The *monthly export price* is the Wheat Board's basic export selling price for ASW bulk wheat f.o.b. Much of the wheat exported is sold under contract for delivery over lengthy periods and these prices do not necessarily reflect the prices received for all wheat shipped during those months.

For details of these price series *see* earlier issues of the Year Book and the latest issue of *Wheat Statistics, Australia* (7307.0).

Wheat pools

Details of wheat receivals by State of origin for the several Pools together with Pool payments and times of payment will be found in the latest issue of *Wheat Statistics, Australia* (7307.0).

Wheat exports

International Wheat Agreement. A number of Agreements have operated since 1949 to provide a valuable framework for continuing international consultations and co-operation on world wheat matters, including the regular monitoring of the world wheat situation. The 1971 International Wheat Agreement (which expired on 30 June 1974) was extended by protocol to 30 June 1979. Negotiations towards a new Agreement were held in 1978 and January 1979 under the auspices of the U.N. Conference on Trade and Development (UNCTAD). No consensus was reached on an Agreement with economic provisions (unlike the current Agreement) designed to bring about a measure of price stability by the accumulation and release of internationally controlled nationally-held reserve stocks. The January 1979 conference has been adjourned indefinitely. It was agreed to extend the current Agreement, by protocol, for a further two years to 30 June 1981.

Details of the earlier International Wheat Agreements are published in previous editions of the Year Book and in issues of *Wheat Statistics, Australia* (7307.0).

WHEAT EXPORTS: A COMPARISON WITH OTHER EXPORT COMMODITIES(*a*)

Year	*Wheat for grain: Exports*		*Total Australian exports—all produce: Value f.o.b.*	*Export value of wheat for grain as a percentage of total Australian exports*
	Quantity	*Value f.o.b.*		
	'000 tonnes	$m	$m	per cent
1973–74	5,128	517.1	6,707	7.7
1974–75	7,860	1,034.4	8,457	12.2
1975–76	7,567	922.5	9,340	9.9
1976–77	7,945	863.5	11,376	7.6
1977–78	10,949	1,011.1	11,922	8.5
1978–79p	6,801	794.6	13,797	5.8

(*a*) These statistics exclude re-exports.

EXPORTS OF WHEAT AND FLOUR

	Quantity ('000 tonnes)			*Value f.o.b. ($m)*		
Country of consignment	*1976–77*	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*
			WHEAT			
Bangladesh	109.5	146.5	52.2	10.2	14.3	6.3
China—excl. Taiwan Province	745.2	4,603.1	1,437.7	74.1	376.4	139.6
Taiwan Province only	54.5	82.7	–	6.2	8.1	–
Cuba	–	122.5	–	–	13.8	–
Egypt, Arab Republic of	1,002.5	1,246.5	1,212.9	101.9	115.7	144.3
Indonesia	528.9	559.2	539.9	55.0	57.0	70.5
Iraq	524.2	520.0	419.0	61.3	54.7	55.9
Japan	1,075.9	1,158.0	968.8	114.9	116.0	117.6
Kuwait	143.2	178.8	193.5	16.0	18.1	23.8
Malaysia	339.7	376.9	378.8	35.4	37.8	46.2
Pakistan	15.8	229.9	239.9	1.5	21.4	30.2
Saudi Arabia	91.3	125.8	12.6	10.4	15.4	2.0
Singapore	208.8	229.1	186.7	20.7	22.4	20.7
Sri Lanka	114.3	102.7	84.0	12.4	9.7	8.9
U.S.S.R.	363.1	255.1	157.3	48.5	27.2	15.3
Yemen Arab Republic	272.7	250.1	80.0	30.8	27.2	10.5
Other countries	2,355.5	762.0	837.3	264.2	75.9	102.8
Total	**7,945.1**	**10,948.9**	**6,800.6**	**863.5**	**1,011.2**	**794.6**
			FLOUR(*a*)			
Burma, Socialist Rep.	3.9	3.9	4.0	0.7	0.7	0.8
Mauritius	22.2	18.3	16.8	4.0	3.1	3.4
New Caledonia	1.5	2.7	3.7	0.3	0.5	0.7
Papua New Guinea	22.1	16.7	16.8	3.9	3.1	3.4
Philippines	4.4	6.2	0.9	0.7	1.1	0.2
Samoa (Western)	3.5	3.9	3.8	0.6	0.6	0.7
Saudi Arabia	4.1	2.8	2.4	0.6	0.4	0.4
Solomon Islands	1.6	1.9	2.4	0.3	0.3	0.5
Sri Lanka	9.9	9.5	10.4	1.7	1.7	2.1
Tonga	3.3	5.1	3.7	0.6	0.8	0.7
United Arab Emirates	42.0	17.3	0.1	7.0	2.8	–
Vietnam	32.2	32.3	–	5.1	5.2	–
Other countries	19.2	11.8	13.3	3.1	2.1	2.8
Total	**169.9**	**132.4**	**78.3**	**28.6**	**22.4**	**15.7**

(*a*) Plain, white and self-raising flour, sharps and wheatmeal for baking.

WORLD WHEAT: AREA AND PRODUCTION

Source: International Wheat Council, *World Wheat Statistics* (various issues)

Unit: Area in million hectares; production in million tonnes

	1973–74		*1974–75*		*1975–76*		*1976–77*		*1977–78*		*1978–79p*	
	Area	*Prod.*	*Area*	*Prod.*	*Area*	*Prod.*	*Area*	*Prod.*	*Area*	*Prod.*	*Area*	*Prod.*
Europe	26.5	82.2	27.3	90.7	25.3	76.8	26.8	85.4	24.8	81.9	26.2	93.8
EEC (9)	10.8	41.4	11.2	45.4	10.5	38.0	11.2	39.1	10.1	38.4	11.0	47.2
U.S.S.R.	63.2	109.7	59.7	83.9	62.0	66.2	59.5	96.9	62.0	92.2	62.9	120.8
North & Central America	32.0	65.2	36.2	64.6	38.4	77.5	40.8	85.3	37.8	77.8	34.4	72.7
Canada	9.4	16.5	8.9	13.3	9.5	17.1	11.3	23.6	10.1	19.9	10.6	21.1
U.S.A.	21.9	46.6	26.5	48.5	28.6	57.8	28.6	58.3	26.9	55.4	22.9	49.0
South America	6.2	10.0	7.6	10.7	9.6	11.8	11.4	16.3	8.0	8.7	8.4	11.9
Asia	76.6	89.2	75.7	89.7	76.5	100.3	80.0	111.0	80.7	106.9	81.4	113.3
China(*a*)	28.7	36.0	29.0	37.0	30.0	41.0	31.0	43.0	31.5	40.0	31.5	44.0
India	19.5	24.7	18.6	21.8	18.0	24.2	20.5	28.8	20.9	29.0	21.2	31.3
Iran	5.9	4.6	5.9	4.7	6.0	5.5	5.6	6.0	5.5	5.5	5.4	5.7
Pakistan	6.0	7.4	6.1	7.6	5.8	7.7	6.1	8.7	6.4	9.1	6.4	8.3
Turkey	8.9	10.0	8.8	11.0	9.3	14.8	9.3	16.5	9.5	16.7	9.5	16.0
Africa	9.3	8.4	8.8	8.3	8.0	9.1	9.0	10.5	8.7	8.1	8.6	9.6
Oceania	9.0	12.2	8.4	11.5	8.7	12.3	9.1	12.2	10.1	9.7	10.3	18.4
Australia	8.9	12.0	8.3	11.4	8.6	12.0	9.0	11.8	10.0	9.4	10.2	18.1
Total world	**222.9**	**376.8**	**223.7**	**359.4**	**228.5**	**354.1**	**236.6**	**417.5**	**232.0**	**385.2**	**232.2**	**440.5**

(*a*) Excludes Taiwan Province; FAO estimates.

NOTE 1. Crop years shown cover northern hemisphere harvests combined with those of the southern hemisphere which immediately follow.
2. The 9 members of the EEC are: Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg, Netherlands and the United Kingdom.

Coarse grains

In the late sixties and early seventies, restrictions on wheat deliveries and low returns in the sheep industry caused a resurgence of interest in coarse grain crops and the newer oilseed crops. The resultant higher level of plantings and production has been maintained, despite the lifting of wheat delivery quotas and a general improvement in market prospects for wheat, wool and meat.

Oats

Oats is traditionally a cereal of moist temperate regions. However, improved varieties and management practices have enabled oats to be grown over a wide range of soil and climatic conditions. It has a high feed value and produces a greater bulk of growth than other winter cereals; it needs less cultivation and responds well to superphosphate and nitrogen. Oats has a variety of uses—as a pasture plant when rough sown into heavy stubble or heavy clover pastures, as a fodder crop when mown and baled or cut for chaff, or as a grain when stripped (the stubble then being grazed off). Oats produced in New South Wales are marketed through a statutory board while the Victorian Oatgrowers' Pool and Marketing Company Ltd markets the bulk of oats produced in Victoria and acts as a marketing and handling agent for the N.S.W Board. In South Australia the Barley Marketing Act was amended in 1977 to give the Australian Barley Board powers over oat marketing in that State. Under the legislation amendments the Board controls export sales and grain resold on the local market; however, direct sales between producers and consumers are outside the Board's supervision. The Grain Pool of Western Australia conducts a voluntary pool for oats.

Oats is usually next in importance to wheat and barley among the grain crops. About three-quarters of the crop is used domestically as stockfeed or for human consumption.

OATS FOR GRAIN: AREA, PRODUCTION AND EXPORTS

Year	*Area*	*Production*		*Exports*	
		Quantity	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1973–74	1,182	1,107	66.8	184	13.6
1974–75	897	874	59.6	236	19.8
1975–76	988	1,141	77.8	359	32.9
1976–77	995	1,072	74.4	364	33.4
1977–78	1,076	990	69.1	218	19.6
1978–79p	1,355	1,756	115.6	309	26.5

Barley

This cereal contains two main groups of varieties, 2-row and 6-row. The former is generally, but not exclusively, preferred for malting purposes. Barley is grown principally on pasture land worked up early in the year of sowing. In this way it forms an important phase in the rotation of crops. Like oats, it may also be sown for fodder production or for grain. When sown for fodder, sowing may take place either early or late in the season, as it has a short growing period. It may thus provide grazing or fodder supplies when other sources are not available. Barley grain may be crushed to meal for stock or sold for malting.

Crops sown for malting purposes require a combination of light textured soil of moderate fertility, reliable rainfall, and mild weather during ripening. The main barley-growing areas in Australia are situated in South Australia, but considerable quantities are grown also in New South Wales, Victoria, Queensland and Western Australia.

Barley Boards

Barley is marketed in New South Wales and Queensland by statutory boards in both States, while the Australian Barley Board controls marketing in both Victoria and South Australia. Marketing of barley in Western Australia is the responsibility of the Grain Pool of Western Australia.

BARLEY FOR GRAIN: AREA, PRODUCTION AND EXPORTS

		Production				*Exports*	
				Total			
Year	*Area*	*2-row*	*6-row*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha		—'000 tonnes—		$m	'000 tonnes	$m
1973–74	1,894	2,076	322	2,397	190.5	808	68.5
1974–75	1,826	2,272	243	2,515	256.9	1,760	186.7
1975–76	2,329	2,872	307	3,179	313.9	1,954	199.8
1976–77	2,321	2,627	220	2,847	294.8	2,100	222.5
1977–78	2,803	2,261	123	2,383	205.0	1,325	121.8
1978–79p	2,777	3,776	219	3,995	328.6	1,703	149.5

Grain sorghum

The sorghums are summer growing crops which are used in three ways: grain sorghum for grain; sweet or fodder sorghum, sudan grass and, more recently, columbus grass for silage, green feed and grazing; and broom millet for brooms and brushware.

Grain sorghum has been grown extensively only in the last two decades. Rapid increases in production have resulted in a substantial increase in exports over this period. The grain is used primarily as stockfeed and is an important source for supplementing other coarse grains for this purpose.

The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum. In Queensland, grain sorghum production is concentrated in the Burnett and Dawson-Callide areas and in the Central Highlands. In New South Wales, the north-western slopes and plains are the main areas.

In Queensland, a degree of orderly marketing is ensured by the operation of the Central Queensland Grain Sorghum Marketing Board and the Queensland Graingrowers' Association, which receives sorghum mainly from southern Queensland. A state statutory marketing board handles sorghum grown in New South Wales.

GRAIN SORGHUM: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1973–74	539.7	1,060.6	80.4	747.9	54.3
1974–75	511.1	900.8	76.2	855.8	73.3
1975–76	504.0	1,123.7	96.1	815.0	71.8
1976–77	532.1	956.0	80.3	829.2	76.3
1977–78	394.1	714.4	59.5	384.5	35.4
1978–79p	470.1	n.y.a.	74.8	516.3	45.5

Maize

Like sorghum, maize is a summer cereal demanding specific soil and climatic conditions. Maize for grain is almost entirely confined to the south-east regions and Atherton Tablelands of Queensland and the north coast and northern tablelands of New South Wales. Small amounts are grown in all States, except South Australia, for green feed and silage, particularly in association with the dairy industry.

A statutory board controls the marketing of maize in the Atherton Tablelands area of Queensland. In New South Wales, the Yellow Maize Marketing Board for the State of New South Wales (established in 1976) will, with respect to the 1979–80 crop, exercise its right of compulsory acquisition for the first time, with the intention of maximising sales on a promising export market, with a resultant benefit to growers.

MAIZE: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1973–74	45.6	105.8	9.0	2.7	0.2
1974–75	51.4	133.3	11.7	1.2	0.2
1975–76	46.8	131.5	12.2	10.8	1.0
1976–77	53.0	144.2	13.1	33.0	2.8
1977–78	45.4	130.1	12.2	11.1	1.6
1978–79p	50.9	n.y.a.	14.9	16.9	1.4

Rice

In Australia, rice was first grown commercially in 1924–25 in the Murrumbidgee irrigation area, one of three irrigation areas in southern New South Wales where rice is now produced. Today, about 96 per cent of Australia's rice is grown in New South Wales. The remainder is grown in the Burdekin River basin in Northern Queensland with small quantities grown in the Ord River region of Western Australia.

Rice is a summer growing crop in N.S.W. The combination of irrigation water and the relatively cloudless days characteristic of summers in temperate regions of the world is the main contributing factor to the extreme high yields per hectare often achieved by N.S.W. growers.

State statutory marketing boards are responsible for the marketing of the N.S.W. and Queensland crops.

RICE: AREA, PRODUCTION AND EXPORTS

		Production		*Exports*	
Year	*Area*	*Quantity(a)*	*Gross value*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	$m
1973–74	67.5	408.8	50.5	136.6	28.6
1974–75	75.6	388.3	35.9	164.3	43.0
1975–76	74.8	417.0	41.2	218.0	51.4
1976–77	92.0	529.8	59.4	256.5	57.1
1977–78	91.4	489.7	61.1	277.5	66.6
1978–79p	110.1	692.0	80.0	241.0	70.4

(*a*) In terms of paddy (or rough) rice.

Oilseeds

The restrictions on wheat deliveries and low wool and meat prices in the late 1960s and early 1970s increased interest in the newer oilseed crops such as rapeseed. This was aided by a buoyant world market for oilseeds.

Specialised Oilseeds

In Australia, linseed, rapeseed, safflower and sunflower are grown specifically for crushing. These crops are located in the grain areas of several States and have shown spectacular increases in recent years.

Linseed. Varieties of the summer-growing annual flax plant have been developed for the production of linseed which, when crushed, yields an industrial oil used in the manufacture of paint and linoleum. The introduction of synthetics into these fields has reduced the demand for linseed oils. The main producing areas are the wheat belt of New South Wales, western and north-eastern districts of Victoria, the Esperance district of Western Australia, the Darling Downs in Queensland and the south-eastern district of South Australia.

Rapeseed. This is obtained from several varieties of brassica which are cultivated in temperate and warm temperate zones for their oil-producing seed. Rapeseed oil is used mainly as a salad and cooking oil with some minor amounts being utilised for industrial purposes. A protein meal is derived as a by-product in the crushing process. Rapeseed is winter growing and is produced mainly in the higher rainfall areas of southern New South Wales, Victoria, South Australia and Western Australia. From virtually nil production in 1967–68 it rose to a peak of 55,000 tonnes in 1971–72 but declined rapidly due partly to blackleg disease in Western Australian crops. In more recent years, blackleg resistant varieties of low erucic acid content have been released. Production in 1979–80 is expected to approximate that of the peak levels of 1971–72.

Safflower. Safflower is best cultivated either in the warm temperate zones or as a winter crop in the tropical or sub-tropical regions, on moderately fertile, weed-free, clay or sandy loams. Adequate moisture is required up to the flowering stage, after which it is relatively drought resistant. The soil preparation and sowing techniques are similar to those employed for small grains; it is usually harvested by headers when the seed is hard and dry. Growers are finding that safflower at current price levels are providing a more effective cash return than other traditional crops. The oil, produced by crushing, is used in the manufacture of margarine, soaps, paints, varnishes, enamels, and textiles.

Sunflower. Sunflowers are summer growing annuals produced under raingrown and irrigated conditions mainly in the three eastern mainland States of Australia. The cultivation of sunflowers has developed rapidly in recent years with improved varieties of open-pollinated and hybrid seeds and improved crop husbandry to make it the major oilseed crop.

The seed for which the plant is cultivated yields a high quality dual purpose oil which sells at a premium price compared with other oilseeds and a by-product protein meal used for stockfeed. Main uses for the oil are in the manufacture of margarine, as a salad and cooking oil, and for industrial purposes.

Trends in the production of these specialised oilseed crops are closely tied to development in markets and prices not only for oilseeds but also for wheat, coarse grains and meat. In 1975–76, due to lower world and domestic market prices and an increase in oil imports, the industry requested greater import protection. The Industries Assistance Commisson reviewed the assistance requirements of the fats and oil production sector as well as the seed producing industry and recommended changes to the structure of assistance. The recommendations, adopted by the Government resulted in some reduction in the overall level of assistance accorded the oilseeds crushing industry.

Constant attention is being paid to alternative marketing arrangements and to research to improve technical and economic efficiency. Legislation providing for the establishment of a joint Government-industry research scheme for the Australian oilseeds industry commenced operation in November 1977. Research undertaken by the scheme is aimed at the encouragement and improvement of the industry. The scheme is financed by way of a levy on the production of sunflowerseed, safflowerseed, linseed, rapeseed and soybean and a matching Commonwealth Government contribution.

Other Oilseeds

Soybeans, peanuts and cottonseed are grown for other purposes, but oil is a by-product.

Soybeans. The soybean is cultivated widely throughout the world in temperate zones where hot damp summers provide adequate growing conditions. Although large quantities of beans are directly consumed in countries such as Japan, China (excluding Taiwan Province) and Indonesia, the greater part of world output is crushed for meal and oil. Major soybean producing countries are the United States of America, Brazil, Argentina and China (excluding Taiwan Province).

The greater part of Australian production takes place in the Darling Downs, Burnett and Lockyer districts of Queensland and in the Moree and Gunnedah districts of New South Wales.

Peanuts. Peanuts, or groundnuts, are a sub-tropical legume (and hence summer growers), the pods of which mature beneath the surface of the soil. They thus require well drained, light textured soils. At harvest the plant is pulled, wind-rowed, field-cured for two to four weeks, and then threshed to recover the pods. The main products of the industry are nuts, peanut oil and oil cake.

In Australia, peanuts for crushing for oil arise as a by-product in the production of nuts for edible purposes. The oil is used extensively as a cooking and salad oil and in the manufacture of margarine.

The production of peanuts in Australia is confined mainly to Queensland, although small quantities are grown in New South Wales, the Northern Territory and, in some years, Western Australia.

SELECTED OILSEED CROPS: AREA, PRODUCTION AND GROSS VALUE

Year	*Specialised*				*Other*		
	Linseed	*Rapeseed*	*Safflower*	*Sunflower*	*Soybeans*	*Peanuts*	*Cotton(a)*
				AREA ('000 hectares)			
1973–74	17.8	16.8	12.3	150.6	40.8	25.9	41.7
1974–75	35.6	11.8	36.2	209.5	45.9	24.1	38.5
1975–76	15.7	15.9	39.8	136.9	26.3	27.3	29.8
1976–77	15.3	7.7	12.9	134.6	34.6	31.0	35.3
1977–78	43.8	19.1	39.0	220.4	49.9	30.3	41.6
1978–79p	16.8	20.1	65.4	256.2	52.9	35.9	46.9
				PRODUCTION ('000 tonnes)			
1973–74	14.3	10.6	6.9	84.3	62.5	29.2	86.4
1974–75	33.0	8.5	30.5	113.4	73.7	32.0	106.6
1975–76	12.2	11.9	18.2	80.4	44.6	35.5	80.1
1976–77	16.4	8.5	6.3	74.9	55.2	31.9	82.8
1977–78	27.9	15.7	26.3	158.3	76.5	39.0	131.5
1978–79p	15.5	20.7	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.
				GROSS VALUE ($ million)			
1973–74	3.1	1.5	1.0	19.4	11.2	10.9	26.6
1974–75	7.5	1.9	7.5	24.0	13.2	12.0	29.3
1975–76	2.1	1.9	2.7	15.7	7.2	15.8	37.5
1976–77	3.4	1.5	1.4	21.5	14.7	14.4	39.8
1977–78	5.0	3.0	5.4	36.6	17.6	20.2	61.2
1978–79p	3.2	3.8	10.8	43.1	n.y.a.	25.0	79.4

(*a*) Additional data is shown below.

Cotton. This annual shrub requires a hot climate and inter-row weed control. Lint (long fibres) is extracted from the seed cotton in the ginneries and is used for yarn. The residue, consisting of linters (short fibres), kernels and hulls (outer seed coat), is treated in oil mills. Linters are used in the manufacture of felts and other materials where fibre length is of little importance. The kernels, when crushed, produce an oil which is used for food and for industrial purposes. The residual meal is a useful high protein stockfeed; the hulls may be used as fuel.

About three-quarters of the country's cotton is grown in New South Wales, principally in the Namoi, Macquarie and Gwydir Valleys with water provided from the Keepit, Burrendong and Copeton dams. The rest is grown in Queensland, also under irrigation except for a small and fluctuating dryland area, in the Emerald, St. George and Biloela areas. Cotton, introduced into the Ord River area of Western Australia in 1963, ceased to be produced by 1975 due to rising production costs and insect infestation. Australian production has for some time satisfied most of the requirements of local mills for short and medium staple cotton. The recent surge in plantings has resulted in large amounts of cotton becoming available for export. Exports from the 1978–79 crop are expected to amount to about 37,000 tonnes of raw cotton. A further expansion in Australian cotton plantings is expected in 1979–80. In view of the reduced levels of production by local yarn spinners in recent years, this should ensure a continued significant export orientation by the domestic cotton growing industry.

COTTON: AREA, PRODUCTION AND EXPORTS

Year		*Seed cotton (a)*		*Australian production*		*Raw cotton export*	
	Area	*Quantity*	*Gross value*	*Cottonseed*	*Lint*	*Quantity*	*Value f.o.b.*
	'000 ha	'000 tonnes	$m	'000 tonnes	'000 tonnes	'000 tonnes	$m
1973–74	41.7	86.4	26.6	49.9	30.5	3.1	1.7
1974–75	38.5	106.6	29.3	53.8	33.0	7.7	5.4
1975–76	29.8	80.1	37.5	40.7	24.9	16.0	11.5
1976–77	35.3	82.8	39.8	45.6	28.0	5.5	7.2
1977–78	41.6	131.5	61.2	72.1	44.2	9.8	10.9
1978–79p	46.9	n.y.a.	79.4	(*b*)89.7	(*b*)55.0	23.6	28.5

(*a*) Before ginning. (*b*) Estimated by the Bureau of Agricultural Economics.

Sugar

The growing of sugar cane is restricted to the east coast (from Mossman in northern Queensland south to the Clarence River in northern New South Wales) which has suitable soil and where the average rainfall is over 1,000 mm per year, or where irrigation water is available. Queensland accounts for 95 per cent of Australia's cane crop, most of which grows in the tropical zone where sugar is a major industry and source of employment. Cane farms average about 50 hectares.

Australia is the world's third largest exporter of raw sugar. It has a reputation as a reliable supplier and has always fulfilled its obligations and commitments under the various international marketing arrangements to which Australia has been a party. Each of the thirty-three mills is assigned a quota of sugar which is translated into cane quotas for growers.

The organisation of the industry is complex: the industry is subject to a significant degree of supervision by the Federal and Queensland governments. The price of refined sugar for sale is fixed by agreements between the two regulating governments, with the Queensland government controlling raw sugar production and contracts for refining of home consumption needs, and arranging for export marketing of raw sugar.

The Australian sugar industry was the first in the world to introduce mechanical cultivation and harvesting techniques. By 1964 the entire industry was converted to bulk handling. Continuing improvements in bulk handling equipment have substantially increased the efficiency in bulk handling installations. The total storage capacity of the six Australian bulk sugar terminals is 1.66 million tonnes. Further storages are planned to give a total capacity of 2.14 million tonnes.

Production. Climatic conditions in some areas in New South Wales are such that the crop matures in from 20–24 months, whereas in Queensland a period from 12–16 months is sufficient. Allowance should be made in interpreting the figures below for the disparity in the maturing periods in the respective States.

SUGAR CANE: AREA, PRODUCTION AND YIELD

	New South Wales					*Queensland*				
	Sugar cane cut for crushing			*Raw sugar(a)*		*Sugar cane cut for crushing*			*Raw sugar(a)*	
Year	*Area harvested*	*Production*	*Yield*	*Quantity*	*Yield*	*Area harvested*	*Production*	*Yield*	*Quantity*	*Yield*
	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha
1973–74 . . .	9.9	999.5	100.8	121.1	12.2	215.9	18,278.5	84.7	2,405.8	11.1
1974–75 . . .	9.9	996.7	100.6	121.0	12.2	243.2	19,421.1	79.9	2,727.5	11.2
1975–76 . . .	11.0	889.7	80.8	104.1	9.5	245.8	21,068.9	85.7	2,751.4	11.2
1976–77 . . .	11.6	1,074.2	92.4	132.3	11.4	276.6	22,269.4	80.5	3,163.2	11.5
1977–78 . . .	14.7	1,162.4	79.0	134.4.	9.1	280.4	22,330.8	79.6	3,209.3	11.4
1978–79p . . .	14.1	1,321.5	93.7	152.7	10.8	237.7	20,135.5	84.7	2,748.9	11.6

(*a*) In terms of 94 net titre.

The average yields of sugar per hectare has increased to 11 tonnes owing to the development of new varieties and improved practices.

For many years Australia sold its sugar in each of three distinct market categories—the domestic market, sales under formal agreement (Commonwealth Sugar Agreement and the U.S. Sugar Act), and the residual world free market. Following international failure to regulate and stabilise world sugar market prices, the loss of the United Kingdom to the EEC and the expiry of the U.S. Sugar Act, the industry developed long-term export contracts with the Near East. These long-term contracts and the domestic market provide secure outlets for about 65 per cent of the industry's capacity, the balance of the export sugar going on the free market.

SUGAR: AREA, PRODUCTION, EXPORTS AND CONSUMPTION

		Production			*Exports*		*Apparent consumption in Australia(a)*	
		Sugar cane		*Raw sugar*	*Raw and refined sugar*			
Year	*Area harvested*	*Quantity*	*Gross value*	*Quantity*	*Quantity*	*Value f.o.b.*	*Total*	*Per head*
	'000 ha	mil. tonnes	$m	mil. tonnes	mil. tonnes	$m	'000 tonnes	kg
1973-74	225.9	19.3	218.9	2.5	1.8	222.3	664.5	49.3
1974-75	253.1	20.4	490.7	2.8	2.0	644.5	672.5	49.1
1975-76	256.8	22.0	435.6	2.9	2.0	569.7	708.2	51.1
1976-77	288.2	23.3	472.2	3.3	2.6	637.5	694.0	49.6
1977-78	295.2	23.5	420.5	3.3	2.5	536.6	712.3	50.3
1978-79p	251.7	21.5	384.7	2.9	1.8	448.2	n.y.a.	n.y.a.

(*a*) Total quantity of sugar available for consumption in Australia comprises refined sugar and refined sugar contained in manufactured foods.

To apply for five years from 1 January 1978, the new International Sugar Agreement (ISA) was negotiated against a background of large world stocks and the prospect of continuing depressed market prices. Consumption of sugar is relatively unresponsive to price changes but changes in the availability of sugar can lead to large price fluctuations. World sugar production currently exceeds consumption and world prices are consequently at depressed levels. There is little incentive for individual countries to reduce production to realise higher prices.

The ISA provides for an export supply control mechanism with special stock holding arrangements which come into operation at pre-determined price levels. The extent of the supply controls stipulated for member countries and the provisions for quantities to be stockpiled should help to reduce the current heavy supplies. Provision was made for the establishment of a Stock Financing Fund, to be constituted by means of a contribution on free market sugar exported to, or imported into, member countries. The Fund provides interest-free loans to exporting members for the purpose of helping them to defray the costs of holding the special stocks which they must hold under the terms of the Agreement. Details of other sugar Agreements and marketing arrangements will be found in Year Book No. 61, page 843.

Vegetables

Vegetables for human consumption

The wide range of climate in Australia enables most vegetable varieties to be grown in some part of the country. The area sown to vegetables reached a peak of over 200,000 hectares during the last year of the Second World War, but has remained static at around 108,000 hectares since 1970. However, yields from most vegetable crops have increased, due in part to irrigation and in part to the control of diseases and insect pests.

Because of the wide climatic range, supplies for main city markets are drawn from widely different areas, depending on the times of maturity of the various crops. Historically, market gardens were located near urban centres and, while many small scale growers still produce crops close to city markets, urban expansion, rising urban land values, improvements in transport and irrigation and developments in freezing, canning and drying have extended the industry far from the cities. Transport costs are reduced by the location of processing establishments in producing areas, although city markets still absorb the bulk of fresh and processed produce.

Potatoes. Potatoes require deep friable soils which, in Australia, are usually basaltic, alluvial or swampy in origin. Fertiliser requirements, which are generally high, vary with the type of soil. While potatoes require only moderate temperatures for growth, the greatest proportion of Australia's potatoes are grown as a summer crop because potato plants are killed by heavy frosts. In recent years an increasing proportion of potatoes has been grown under irrigation and potato growing has become increasingly mechanised, with individual growers having larger areas and becoming more specialised.

Seed certification schemes or approvals which operate in most States provide supplies of seed. In Australia, potatoes are used almost entirely for human consumption or seed. Approximately 25 per cent of Australian potato consumption is in a processed form and this proportion is rising. The main processed potato products are crisps, frozen chips, dehydrated granule and flake, soup, baby foods, salads and canned potatoes.

Potato marketing. The majority of table potatoes are marketed through potato merchants and agents. In some instances they are marketed through a primary merchant and then a secondary merchant (wholesale). In South Australia and Western Australia, potato marketing is controlled by potato marketing boards.

Overall, probably more than half of the potatoes used for processing are purchased by forward contract made directly by the processor with the grower. The remainder of the processors' requirements are usually purchased from merchants and, in some instances, merchants' contracts with growers as agents for processors. Seed potatoes are purchased either through a merchant or directly from a seed grower.

APPARENT CONSUMPTION OF VEGETABLES

(Kilograms per capita per year)

Year	*Potatoes*	*Other root and bulb vegetables*	*Tomatoes*	*Leafy and green vegetables*	*Other vegetables*	*Total, fresh equivalent weight*
1972–73	47.9	16.7	16.9	20.0	19.0	120.4
1973–74	45.5	17.5	14.9	21.0	18.7	117.6
1974–75	51.7	17.7	10.1	21.6	19.2	120.3
1975–76	46.6	15.9	14.3	23.0	18.2	118.1
1976–77	48.9	16.0	14.6	22.4	19.7	121.5
1977–78p	50.7	17.0	13.1	23.0	20.9	124.7

VEGETABLES FOR HUMAN CONSUMPTION: AREA AND PRODUCTION

Year	*French and runner beans*	*Cabbages and brussel sprouts*	*Carrots*	*Cauli-flowers*	*Onions*	*Green peas*	*Potatoes*	*Tomatoes*	*Total vege-tables*
				AREA ('000 hectares)					
1973–74 . . .	8.3	2.8	3.2	2.5	4.2	19.4	34.1	7.1	105.5
1974–75 . . .	8.6	2.9	3.5	2.5	4.4	18.5	37.6	7.9	110.7
1975–76 . . .	7.6	2.7	3.3	2.6	4.0	19.0	33.4	7.9	105.6
1976–77 . . .	7.3	2.8	3.3	2.6	4.3	19.0	33.9	8.6	107.9
1977–78 . . .	7.0	3.0	3.3	2.6	3.8	13.9	36.1	8.5	105.4
1978–79p . .	n.y.a.	n.y.a.	n.y.a.	n.y.a.	3.8	n.y.a.	36.7	8.1	122.1

Year	*French and runner beans*	*Cabbages and brussel sprouts*	*Carrots*	*Cauli-flowers*	*Onions*	*Green peas*		*Potatoes*	*Tomatoes*
						Process-ing (shelled weight)	*Sold in pod (pod weight)*		
				PRODUCTION ('000 tonnes)					
1973–74 . . .	38.9	70.3	86.6	61.4	93.8	44.4	4.1	649.1	132.7
1974–75 . . .	39.8	84.8	97.6	61.1	108.1	52.1	4.6	741.9	165.4
1975–76 . . .	40.2	73.6	81.4	70.5	94.6	44.1	2.5	696.5	162.2
1976–77 . . .	36.4	73.8	85.6	70.8	105.3	60.8	2.5	728.5	178.1
1977–78 . . .	33.4	81.1	91.9	86.4	106.8	42.7	2.4	772.4	182.1
1978–79p . .	n.y.a.	n.y.a.	n.y.a.	n.y.a.	112.0	n.y.a.	n.y.a.	n.y.a.	n.y.a.

VEGETABLES FOR HUMAN CONSUMPTION: VALUE OF PRODUCTION AND VALUE OF EXPORTS

Year	*Gross value*	*Export value f.o.b.(a)*
	$m	$m
1973-74	239.7	7.2
1974-75	256.2	7.9
1975-76	274.3	7.9
1976-77	308.0	11.5
1977-78	321.8	10.4
1978-79p	370.7	12.5

(*a*) Fresh, frozen, simply or otherwise preserved or prepared vegetables.

PROCESSED VEGETABLES: AUSTRALIAN PRODUCTION

('000 tonnes—unless otherwise stated)

Item	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79p*
Quick frozen vegetables—						
Beans	25.5	26.8	23.5	20.9	17.3	25.9
Peas	39.0	43.6	35.5	53.1	34.5	46.3
Potatoes	20.9	15.5	36.0	45.4	43.6	58.2
Other	12.3	19.6	20.8	15.9	17.3	25.1
Vegetables preserved, canned or bottled (excluding pickles, etc.) (*a*)—						
Asparagus	4.7	3.6	3.4	n.p.	n.p.	n.p.
Beans—Green	7.7	6.8	6.7	6.4	5.0	4.9
Baked (including pork and beans)	22.7	23.9	22.1	24.1	21.4	22.9
Beetroot	25.3	28.1	26.1	25.4	26.7	28.4
Cabbage (including sauerkraut)	1.6	1.4	1.3	1.2	1.8	1.2
Carrots	3.7	5.7	5.0	5.0	5.1	5.1
Cucumber (including pickled)	3.1	2.7	1.9	3.0	2.4	1.4
Gherkins—pickled	1.8	1.8	1.8	1.7	2.1	2.2
Olives—pickled	1.3	0.9	0.7	0.6	0.5	0.5
Onions (including pickled)	2.3	2.6	2.4	2.5	3.4	3.9
Peas—Green	14.8	10.6	10.5	12.7	9.2	15.8
Sweetcorn	9.8	10.8	6.8	n.p.	n.p.	n.p.
Tomatoes (excluding canned pulp)	6.6	9.1	12.0	10.7	13.0	15.7
Tomato juice (million litres)	8.4	13.9	5.9	7.5	8.8	6.8

(*a*) Canned in tinplate or aluminium cans; bottled in glass bottles.

For further information on vegetables *see* the following publications: *Crop Statistics, Australia* (7302.0), *Production Bulletin No.* 3—*Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Fruit (excluding grapevines)

A wide variety of fruits are grown in Australia ranging from pineapples, mangoes and papaws in the tropics to pome, stone and berry fruits in the temperate regions.

Citrus fruits (predominantly oranges) are grown in all States except Tasmania and account for almost half of the production of all orchard fruits (including edible tree nuts). New South Wales has the highest production closely followed by South Australia. Pome fruits (apples and pears) account for about 40 per cent of orchard fruit grown in Australia. Tasmania, New South Wales and Victoria are the most important apple-growing States with significant quantities also being grown in the other States. About three-quarters of all Australian pears are produced in Victoria. Stone fruits (peaches, apricots, plums and prunes, cherries and nectarines) account for around one-eighth of orchard fruit production. Heaviest production is in Victoria, South Australia and New South Wales, with smaller quantities in the other States. Pineapples (about 80 per cent canned) and bananas (virtually all sold fresh) are the most important tropical fruits. Queensland produces almost all of the pineapples grown in Australia while about two-thirds of bananas are grown on the sub-tropical north coast of

New South Wales, most of the remainder on the Queensland coast and the balance in Western Australia. Other tropical fruits grown mainly in Queensland are passionfruit, papaws, mangoes, avocadoes, custard apples and macadamia nuts. Olives, almonds and figs are grown mainly in South Australia. Of the berry fruits, strawberries are widely grown, with heaviest production in Victoria and Queensland. Other berries (currants and raspberries) are grown predominantly in Tasmania.

Although fruit occupies less than 1 per cent of the total area planted to crops, the gross value of fruit production is currently about 9 per cent of the gross value of production of all crops (excluding pastures).

SELECTED FRUIT STATISTICS

	Orchard fruit: number of trees ('000)				*Berry and other fruits: area (ha)*			
Year	*Apples*	*Oranges*	*Pears*	*Peaches*	*Bananas*	*Pineapples*	*Small, and berry fruit*	*Total area of fruit (ha)*
1973-74 . . .	7,701	5,193	2,248	2,092	8,880	6,224	1,144	108,797
1974-75 . . .	7,004	5,076	2,256	1,940	7,982	5,851	1,059	102,370
1975-76 . . .	6,520	5,059	1,853	1,844	7,694	5,873	959	99,822
1976-77 . . .	6,229	5,126	1,679	1,634	7,555	5,875	976	96,248
1977-78 . . .	5,933	5,239	1,622	1,557	7,041	6,001	995	94,126
1978-79p . . .	6,046	5,325	1,690	1,530	7,578	6,403	1,469	98,279

Year	*Apples*	*Apricots*	*Bananas*	*Cherries*	*Oranges*	*Peaches*	*Pears*	*Pine-apples*	*Plums and Prunes*
					PRODUCTION ('000 tonnes)				
1973-74 . .	331.3	37.7	105.8	9.3	310.0	81.6	164.7	114.8	23.0
1974-75 . .	362.8	28.1	99.9	10.5	341.0	90.3	163.0	110.5	23.1
1975-76 . .	274.8	26.2	103.2	9.7	361.5	79.1	140.0	102.9	26.5
1976-77 . .	301.6	26.7	115.1	6.7	321.7	66.3	105.3	111.5	22.2
1977-78 . .	258.4	24.8	97.8	7.3	356.5	62.2	108.0	98.6	18.6
1978-79p . .	n.y.a.	29.9	112.1	6.7	368.5	64.5	n.y.a.	105.2	24.6
					GROSS VALUE OF PRODUCTION ($ million)				
1973-74 . .	63.7	9.1	21.9	7.5	33.7	14.5	24.9	11.0	7.0
1974-75 . .	73.6	9.0	31.3	10.3	43.3	24.2	26.2	11.9	8.5
1975-76 . .	73.7	9.2	39.8	8.6	46.0	18.3	19.6	14.2	9.4
1976-77 . .	83.3	10.0	38.1	7.9	52.4	16.3	22.0	16.5	9.4
1977-78 . .	77.7	11.0	49.7	7.8	63.4	16.6	24.3	16.1	9.4
1978-79p . .	100.2	n.y.a.	47.5	n.y.a.	n.y.a.	19.3	26.5	17.8	n.y.a.

Processed fruit and fruit products

After rapid expansion in the 1960s, output of canned fruit levelled off and then declined due to the effects of contracting overseas markets for Australian canned fruit. Production of natural fruit juices has doubled in the last seven years and this has reflected improvements in marketing methods, effective promotion and public awareness of the nutritious value of natural juices. Rapidly rising packing and marketing costs for fresh citrus has also influenced the swing to processing.

FRUIT PRODUCTION

Derived from the Annual Manufacturing Census and the recorded monthly production

	Unit	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79p*
Fruit juice based cordials and syrups(*a*)	mil litres	70.0	60.1	72.9	68.4	74.6	68.0
Natural fruit juice(*b*)–							
Single strength	mil litres	166.3	179.8	187.8	156.5	n.y.a.	n.y.a.
Concentrated(*c*)	"	10.5	13.8	17.5	12.6	n.y.a.	n.y.a.
Cider and perry	"	11.1	10.5	10.5	11.9	n.y.a.	n.y.a.
Canned or bottled fruit (excl. canned pulp)	'000 tonnes	204.2	240.1	186.7	179.7	184.3	224.9
Jams	'000 tonnes	33.1	30.2	31.0	26.9	28.4	31.5

(*a*) Containing at least 25 per cent by volume of pure fruit juices. (*b*) Excludes fruit drinks consisting of diluted fruit juices with or without artificial flavourings. (*c*) Excludes grape must, and comprises actual quantity of concentrated juices.

APPARENT CONSUMPTION OF FRUIT

(kg per capita per year)

	Fresh						
Year	*Oranges*	*Other citrus*	*Other fresh fruit*	*Jams, conserves, etc.*	*Dried tree fruit*	*Canned and bottled fruit*	*Total, fresh equivalent weight*
1972–73	24.8	5.3	35.7	2.5	0.6	10.3	90.1
1973–74	24.9	6.4	33.5	2.2	0.7	10.2	89.4
1974–75	30.8	6.0	32.7	2.5	0.5	10.1	91.2
1975–76	33.5	6.2	33.3	1.9	0.5	9.7	95.7
1976–77	26.2	6.6	33.0	2.0	0.4	10.1	88.2
1977–78p	25.6	10.2	29.9	1.8	0.6	10.6	88.3

Fruit exports

The gross value of exports of fruit and fruit products (excluding grapes) has in recent years accounted for some 3 per cent of the value of all food crops and their products. Fresh or chilled fruit (mostly apples, pears and citrus) account for about 40 per cent of this; preserved fruit (mostly canned pears and peaches) make up most of the remainder; only small quantities of dried fruits (other than grapes) are exported.

Value of exports of fresh, dried and preserved fruit in recent years peaked at $90 million in 1972–73, trending downwards since that time although exports of preserved fruit showed some revival in 1976–77. In 1977–78 and 1978–79, there was a significant increase in the value of exports of fresh fruit while preserved fruit fell a little from the relatively high 1976–77 value.

Fresh fruit exports to Europe have been reduced in recent years mainly because of rising shipping costs and improved storage techniques in Europe. On the other hand, there has been some expansion to markets in other areas such as South East Asia.

FRUIT EXPORTS: VALUE F.O.B.

($ million)

	Fresh and chilled			*Canned or bottled*					
Year	*Apples*	*Pears*	*Oranges*	*Apricots*	*Peaches*	*Pears*	*Peaches and pears*	*Pine-apples*	*Fruit salad*
1973–74	20.1	7.7	3.2	1.8	16.8	15.4	3.0	1.1	6.0
1974–75	16.1	8.2	2.1	1.5	9.7	11.9	3.1	1.3	5.7
1975–76	12.8	10.1	2.9	1.1	13.3	10.5	2.0	1.6	4.1
1976–77	9.4	8.1	1.0	0.9	14.5	16.1	2.1	1.7	4.5
1977–78	13.8	9.5	4.3	0.8	13.4	13.6	2.3	1.5	3.8
1978–79p	15.6	15.7	5.6	0.8	12.2	17.2	1.9	1.2	4.3

FRUIT: VALUE OF PRODUCTION AND EXPORTS

($ million)

	Gross value			
Year	*Orchard fruit*	*Berry and other*	*Total*	*Exports(a) value f.o.b.*
1973–74	178	39	217	87
1974–75	215	51	267	71
1975–76	206	63	269	68
1976–77	227	64	291	72
1977–78	242	78	320	79
1978–79p	n.y.a.	n.y.a.	370	95

(*a*) Fruit and nuts, excluding grapes (fresh and dried); includes fresh, dried and preserved and fruit preparations.

Fruit imports

Imports of fresh fruit are negligible, while most dried fruit imports consist of dates from Iran, the United States of America and China (excluding Taiwan Province).

Marketing and regulation of the fruit industry

Apples and pears. The Australian Apple and Pear Corporation replaced the Australian Apple and Pear Board in September 1974, absorbing that Board's export control and regulation functions. The Corporation has a wider role than the former Board, e.g. powers to trade under certain circumstances, to charter shipping for international trade, to borrow funds, subject to Government approval, for trading operations, and to promote and research both fresh and processed apple and pear products.

A Government-approved stabilisation scheme was introduced with the 1971 season. This plan established average seasonal export returns for each variety, which were then compared with the agreed support price for each variety to determine the extent of the deficiency or surplus.

Fruitgrowing Reconstruction Scheme. For details *see* Year Book No. 61, pages 846–7.

Canned Fruit. For details on the operations of the Australian Canned Fruits Board and the Australian Canned Fruit Sales Promotion Committee *see* Year Book No. 61, page 847.

For further data on fruits and fruit products *see* the publications *Fruit Statistics, Australia* (7303.0), *Production Bulletin No. 3 Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Grapevines

Grapes require a warm to hot climate and predominantly winter rainfall. Freedom from late spring frosts is essential. They are grown for wine-making, drying and, to a minor extent, for table use. Some of the better known wine producing areas are the Murray Valley (South Australia and Victoria), Barossa Valley and Southern Vales Areas (South Australia), the Murrumbidgee Irrigation Area and the Hunter Valley (New South Wales), the Mildura, Rutherglen and Stawell districts (Victoria), and the Swan Valley (Western Australia). Nearly all the dried fruit is produced along the River Murray and its tributaries, with small localised areas in other States.

VITICULTURAL STATISTICS: AREA, PRODUCTION AND VALUE

	Area		*Production: grapes used for—*			
					Total(a)	
Year	*Bearing*	*Total*	*Winemaking*	*Drying*	*Quantity*	*Gross value*
	'000 ha	'000 ha	'000 tonnes fresh weight	'000 tonnes fresh weight	'000 tonnes fresh weight	$m
1973–74	62.5	70.0	327.9	209.7	555.2	83.2
1974–75	64.0	71.3	424.6	286.2	733.6	101.4
1975–76	63.1	70.4	418.5	274.1	714.6	102.3
1976–77	64.4	71.1	457.4	250.0	728.4	128.5
1977–78	64.9	71.1	430.3	236.3	693.6	141.6
1978–79p . . .	62.3	71.1	n.y.a.	n.y.a.	n.y.a.	147.6

(*a*) Includes grapes used for table and other purposes.

The bearing area of grapes has risen by about 25 per cent since 1969–70, the new plantings being mainly of specialised wine grapes. Production of winegrapes has increased by over 30 per cent since 1969–70. The multipurpose grape production base has not shown much change over this period, apart from annual variations due to seasonal conditions. Multipurpose grapes are used predominantly for winemaking and drying, the latter process being particularly susceptible to any adverse seasonal conditions, There has been an increased diversion of multipurpose grapes to winemaking over the past decade and this has resulted in a decline in the volume of grapes dried. Since the domestic consumption of dried vine fruit is stable at about 1.5 kg per head per year, reductions in grapes dried, result in lower exports. However, a world shortage, caused by damage to crops, over the past three years has created a temporary buoyant market. The Australian Dried Fruit Corporation, which commenced operation on 1 January 1979, replacing the Australian Dried Fruit Control Board, is the body responsible for the organisation of the export trade in vine fruits. The Corporation has taken over the work of the Board and has the additional function of administering the new Dried Vine Fruit Stabilisation Scheme 1978–80. The scheme is based on many of the principles of the 1971–76 scheme with significant modifications to certain aspects of the former scheme. The new scheme covers sultanas only and assures a guaranteed minimum, which is to be indexed annually, for growers.

Varietal Statistics: 1978 Season

Varietal information relating to vines, grape production by end use and yield per hectare, is obtained in a special collection conducted at 30 June in New South Wales, Victoria, South Australia and Western Australia of all growers who reported vines in the Agricultural Census. No varietal information is collected in the other States and Territories. There is continuing research into correct identification of varieties to find out which are most suitable for different wine styles and different regions and several varieties have recently been re-named. The varieties used in the table below are those recommended by the Commonwealth Grape Advisory Subcommittee which was abolished in September 1977 but have not as yet been corrected by recent research. These varieties have been classified by the Bureau of Agricultural Economics (October 1978) according to four categories—red wine grapes, white wine grapes, multipurpose grapes and other grapes. The data are aggregated from the States of New South Wales, Victoria, South Australia and Western Australia only.

VITICULTURE: AREA AND PRODUCTION BY VARIETY, 1978 SEASON

	Area (hectares)		*Production: grapes used for— (tonnes, freshweight)*		
Variety	*Bearing*	*Total*	*Winemaking*	*Drying*	*Total(a)*
Red Wine Grapes—					
Cabernet Sauvignon	3,557	4,313	20,504	–	20,606
Grenache	5,744	5,968	46,990	–	47,587
Malbec	392	418	3,782	–	3,794
Mataro	1,750	1,874	14,342	–	14,527
Shiraz	9,521	10,096	62,595	1,032	64,901
Other red wine grapes	451	523	3,447	–	3,467
Total	*21,415*	*23,192*	*151,660*	*1,032*	*154,882*
White Wine Grapes—					
Doradillo	2,128	2,259	34,497	325	34,939
Palomino	1,054	1,080	15,073	–	15,091
Pedro Ximenez	1,430	1,454	15,650	–	15,659
Rhine Riesling	2,695	3,624	17,464	–	17,496
Clare Riesling	1,072	1,139	12,133	–	12,165
Semillon	2,436	2,744	24,660	–	24,664
Trebbiano	1,479	1,793	18,927	–	18,960
Other white wine grapes	1,957	2,490	15,658	–	15,796
Total	*14,251*	*16,583*	*154,062*	*325*	*154,769*
Multipurpose Grapes—					
Currant	2,011	2,096	328	13,801	14,179
Muscat Gordo Blanco	3,752	4,353	55,726	8,661	65,636
Sultana	18,164	18,655	54,448	204,316	264,975
Waltham Cross	1,494	1,578	3,164	8,105	16,158
Total	*25,421*	*26,682*	*113,666*	*234,883*	*360,948*
Other Grapes(*b*)—					
Frontignan	349	400	2,953	–	2,965
Muscat Hamburgh	520	584	1,624	–	2,929
Ohanez	275	309	403	51	2,215
Purple Cornichon	277	308	701	–	2,428
Other	1,022	1,397	4,999	18	6,835
Total	*2,443*	*2,998*	*10,680*	*69*	*17,372*
Total Grapes	**63,530**	**69,454**	**430,069**	**236,311**	**687,973**

(*a*) Includes grapes used for table and other purposes. (*b*) With the exception of Frontignan (used predominantly in dessert wines) these grapes are specialist table grapes.

DRIED VINE FRUIT: PRODUCTION, EXPORTS AND CONSUMPTION
(Dried weight)

	Production				*Exports*				
							Total		*Consumption of dried vine fruit*
Year	*Raisins*	*Sultanas*	*Currants*	*Total*	*Raisins/ sultanas*	*Currants*	*Quantity*	*Value f.o.b.*	
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	$m	kg
1973–74 .	3.2	40.6	3.6	47.4	25.6	1.2	26.9	17.7	1.7
1974–75 .	5.2	53.4	6.3	64.9	31.4	0.2	31.6	20.0	1.3
1975–76 .	5.6	55.3	4.3	65.2	51.3	2.4	53.7	27.1	1.6
1976–77 .	4.9	49.6	6.1	60.6	43.4	0.9	44.4	26.7	1.5
1977–78 .	5.4	50.9	4.3	60.6	33.9	2.0	36.1	35.8	1.3
1978–79p	n.y.a.	n.y.a.	n.y.a.	n.y.a.	45.4	1.8	47.5	46.9	n.y.a.

Wine industry

Australia produces brandy and wine of every type. In recent years there has been a distinct trend towards greater consumption and production of unfortified or table wines. Until 1957–58 production of these wines (which include burgundy, claret, riesling, sauterne and sparking wines) was less than half that of the fortified varieties (sherries, ports, etc.) By 1970, however, table wines had exceeded the volume of fortified wines.

PRODUCTION, CONSUMPTION AND EXPORT OF WINES

		Exports		
Year	*Production*	*Quantity*	*Value f.o.b.*	*Consumption in Australia per capita*
	mil. litres	mil. litres	$m	litres
1973–74	294.7	8.2	5.6	11.0
1974–75	361.2	6.5	5.3	12.3
1975–76	356.2	6.2	5.5	13.0
1976–77	383.1	5.0	5.4	13.7
1977–78	332.3	4.7	5.4	14.3
1978–79p	n.y.a.	5.4	6.3	16.5

For further details on viticulture, dried vine fruit, wine, etc. *see* the following publications: *Fruit Statistics, Australia* (7303.0), *Sales and Stocks of Australian Wine and Brandy* (8504.0) and *Viticulture, Australia* (7310.0)

Miscellaneous crops

The principal crops not covered above include fodder crops, tobacco, hops, mushrooms and nursery crops which, in 1977–78, had gross values as follows:

Crops	*Gross value*	*Per cent of total crop gross value*
	$m	%
Fodder crops (hay)	35.4	1.2
Tobacco	53.8	1.8
Hops	5.4	0.2
Mushrooms	12.6	0.4
Nurseries	89.6	3.0

Fodder crops

As well as crops specifically for grain, considerable areas of Australia are devoted to fodder crops. These crops are utilised either for grazing (as green feed), or conserved as hay, ensilage, etc.

This development of fodder conservation as a means of supplementing pasture and natural sources of stockfeed is the result of the comparatively unreliable nature of rainfall in Australian agricultural and pastoral areas.

FODDER CROPS: AREA AND PRODUCTION

	Hay(a)				
		Production		*Green feed or silage(b)*	
Year	*Area*	*Quantity*	*Gross value*	*Area*	*Silage made*
	'000 ha	'000 tonnes	$m	'000 ha	'000 tonnes
1973–74	325	1,034	29.3	1,097	888
1974–75	216	669	19.8	853	532
1975–76	230	738	25.0	752	395
1976–77	287	891	30.1	709	311
1977–78	313	795	33.9	853	210
1978–79p	301	n.y.a.	n.y.a.	818	n.y.a.

(*a*) Principally oaten and wheaten hay. (*b*) Principally from oats, barley, wheat and forage sorghum.

FARMSTOCKS OF CEREAL GRAINS, HAY AND SILAGE
('000 tonnes)

	Cereal grains				
At 31 March	*Barley*	*Oats*	*Wheat*	*Hay*	*Silage*
1973	570	798	839	5,309	1,040
1974	609	1,043	849	7,157	1,399
1975	442	861	731	6,582	1,250
1976	494	918	769	5,684	1,096
1977	487	890	803	5,016	842
1978	463	819	760	3,928	709

Tobacco

Tobacco is a summer-growing annual which requires a temperate to tropical climate, adequate soil moisture and frost-free period of approximately five months. In Australia, all tobacco is grown under irrigation. Because of specialised requirements, production is limited to areas with suitable soils and climate. The main centres of production are the Mareeba-Dimbulah districts of north Queensland and Myrtleford in north-eastern Victoria. Other areas where tobacco is grown include Bundaberg, Beerwah and Texas (Queensland), Ashford (New South Wales) and Wangaratta (Victoria). All tobacco grown in Australia is of the flue-cured type except for small quantities of burley tobacco produced mainly in Victoria.

TOBACCO: AREA, PRODUCTION AND OVERSEAS TRADE

			Exports (value f.o.b.)		*Imports (value)*	
Year	*Area*	*Production (dried leaf)*	*Unmanufactured*	*Manufactures*	*Unmanufactured*	*Manufactures*
	'000 ha	'000 tonnes	$'000	$'000	$'000	$'000
1973–74	9.3	14.9	79	3,044	20,701	12,161
1974–75	9.2	15.5	34	3,100	26,076	15,474
1975–76	9.2	14.9	27	3,824	30,315	18,994
1976–77	9.4	16.1	522	4,981	26,440	20,569
1977–78	8.5	15.1	823	7,601	38,640	24,072
1978–79p	9.5	n.y.a.	693	7,465	36,148	23,588

Marketing. In 1965 the Commonwealth and State Governments agreed to a stabilisation plan and an overall marketing quota was decided upon. The plan is administered by the Australian Tobacco Board. Further information on tobacco marketing, research and factories may be found in Year Book No. 61, pages 845–6.

Hops

Hops are grown from perennial rootstocks over deep, well-drained soils in localities sheltered from the wind. The hop-bearing vine shoots are carried upon wire and coir trellises, from which they are later harvested. The green hops are kiln-dried and bleached with sulphur dioxides fumes, following which the cured hops are pressed into bales.

Hop growing in Australia is confined to the Derwent, Huon and Channel areas in the south-east and the Scottsdale-Ringarooma district in the north-east of Tasmania, and the Ovens and King Valleys in Victoria. A small area near Manjimup in Western Australia is under hops.

The area planted to hops is about 1,000 hectares, with over 55 per cent in Tasmania. Production is about 2,200 tonnes, 60 per cent of which is used by breweries with the remainder being exported.

Mushrooms

Statistics of mushroom growing were collected for the first time in all States for the year ended 30 June 1975, with the exception of New South Wales where they have been collected since 1972–73.

MUSHROOMS: AREA, PRODUCTION, GROSS VALUE AND SPAWN USED

Year	*Total area of beds (a) used during year (counted each time cropped)*	*Production*				*Total quantity of spawn used during year*
		For processing	*For fresh market*	*Total*		
				Quantity	*Gross value*	
	'000 sq m	tonnes	tonnes	tonnes	$m	tonnes
1972–73—						
New South Wales	336.7	2,344	1,531	3,875	3.9	94
1973–74—						
New South Wales	306.4	2,002	1,720	3,723	3.5	95
1974–75—						
New South Wales	338.1	2,329	1,789	4,118	4.8	141
Australia	501.3	(b)2,460	(b)3,463	6,007	7.1	(b)209
1975–76—						
New South Wales	339.7	2,028	2,452	4,480	5.7	139
Australia	481.1	2,136	4,480	6,616	10.0	(b)203
1976–77—						
New South Wales	361.0	2,353	2,503	4,857	7.0	150
Australia	555.9	(b)2,353	(b)2,503	7,130	9.9	(b)229
1977–78—						
New South Wales	359.3	2,730	2,008	4,738	7.3	149
Australia	545.4	(b)2,730	2,496	7,289	12.6	244

(*a*) For 'bag-grown' mushrooms, the area has been expressed in terms of the equivalent area of 15 cm fill beds. (*b*) Incomplete; some individual States' data is either not available for publication or was not collected.

PRODUCTION AND IMPORTS OF CANNED, BOTTLED OR DRIED MUSHROOMS

Year	*Production (canned or bottled)*	*Imports*			
		Dried		*Canned or bottled*	
		Quantity	*Value f.o.b.*	*Quantity*	*Value f.o.b.*
	tonnes	tonnes	$'000	'000 litres	$'000
1973–74	5,712	119	928	2,494	1,563
1974–75	6,881	88	664	3,903	2,857
1975–76	5,416	50	438	3,159	2,466
1976–77	6,789	82	870	4,497	5,532
1977–78	6,611	97	998	5,030	6,855
1978–79p	5,718	88	964	2,956	1,180

For further details on mushrooms *see Mushroom Statistics, Australia* (7308.0).

Nurseries

AREA USED FOR NURSERY AND CUT FLOWER ACTIVITIES
(Hectares)

Year	*Area*
1972-73	2,599
1973-74	2,910
1974-75	2,960
1975-76	3,205
1976-77	3,534
1977-78	3,307

Additional information on nursery activities has been collected by some individual States and published by them. In 1974-75 and 1977-78 the collection was extended to all States. All known private establishments which undertook the propagation, cultivation or growing-on of plants were included. Results of the 1977-78 Australia-wide collection are shown below.

NURSERY STATISTICS: 1977-78

	Nursery products ($'000)	
	Purchases	*Sales*
New South Wales	8,859	42,411
Victoria	6,854	30,596
Queensland	1,668	13,711
South Australia	2,079	10,079
Western Australia	1,825	9,329
Tasmania	551	4,496
Northern Territory	136	521
Australia	**21,971**	**111,143**
Seeds and bulbs	2,718	3,812
Seedlings	1,965	13,476
Cut flowers (incl. orchids)	2,098	16,315
Cultivated turf	180	3,454
Fruit trees and vines	1,664	6,518
Rose bushes	1,130	4,100
Shrubs and trees	9,940	48,549
Other plant material	2,275	14,918

For further details on nurseries *see Nursery and Flower Statistics, Australia* (7309.0).

Livestock

Since 1861, annual enumerations of livestock have been made based, with few exceptions, on actual collections made through the agency of the State police or by post. Particulars concerning the numbers of each of the principal kinds of livestock in Australia at decennial intervals from 1861 to 1971, and then from 1974 on in single years, are given in the following table.

LIVESTOCK: AUSTRALIA, 1861 TO 1979
('000)

Year	*Cattle*	*Sheep*	*Pigs*	*Year*	*Cattle*	*Sheep*	*Pigs*
1861	3,958	20,135	351	1951	15,229	115,596	1,134
1871	4,276	41,594	543	1961	17,332	152,679	1,615
1881	7,527	62,184	816	1971	24,373	177,792	2,590
1891	10,300	97,881	891	1974	30,839	145,175	2,505
1901	8,640	70,603	950	1975	32,793	151,653	2,197
1911	11,745	98,066	1,026	1976	33,434	148,643	2,173
1921	13,500	81,796	674	1977	31,533	135,360	2,229
1931	11,721	110,568	1,072	1978	29,330	131,445	2,217
1941	13,256	122,694	1,797	1979p	27,107	134,231	2,268

While livestock numbers (particularly sheep) have increased substantially since 1861, marked fluctuations have taken place during the period, mainly on account of widespread droughts which have from time to time left their impressions on the pastoral history of Australia. These occurred in 1868, 1877, 1883–84, 1892, 1893, 1895, 1901–2, 1912, 1914, 1918, 1919, 1922–23, 1925–26, 1927–28, 1929–30, 1940–41, 1944-45 to 1946–47, and 1965–67. The years in which the numbers of livestock attained their peaks are as follows: cattle, 1976 (33,434,000); sheep, 1970 (180,080,000); and pigs, 1973 (3,259,000).

Cattle

Cattle-raising is carried out in all States, the main object in certain districts being the production of stock suitable for slaughtering purposes and in others the raising of profitable dairy herds. While dairy cattle are restricted mainly to coastal districts, beef cattle are more widely distributed in areas such as the tropical area of northern Queensland, the Northern Territory and the Kimberley district in the north of Western Australia. Although cattle numbers declined after 1957 because of drought conditions and heavy slaughterings, they began to increase in 1960 and in 1964 reached 19,055,000. Again because of drought in the eastern States, this figure declined to 17,936,000 in 1966. There was a continuous increase in the total number of cattle in Australia until 1976 followed in the next three years by a decline to the 1972 level.

CATTLE NUMBERS

('000)

31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust. (incl. A.C.T.)*
1974 . . .	8,456	5,840	10,297	1,692	2,330	884	1,321	30,839
1975 . . .	8,935	6,192	10,879	1,869	2,544	921	1,434	32,793
1976 . . .	9,138	5,868	11,347	1,891	2,654	909	1,603	33,434
1977 . . .	8,348	5,104	11,506	1,608	2,464	819	1,664	31,533
1978 . . .	7,330	4,572	11,490	1,242	2,271	733	1,674	29,330
1979p . . .	6,477	4,134	10,859	1,086	2,092	660	1,785	27,107

Classification of cattle

CATTLE NUMBERS, BY AGE, SEX, PURPOSE

('000)

	31 March					
Classification	*1974*	*1975*	*1976*	*1977*	*1978*	*1979p*
Milk cattle—						
Bulls used or intended for service	77	78	72	65	60	56
Cows, heifers and heifer calves	3,558	3,527	3,407	3,095	2,903	2,733
House cows and heifers	121	122	122	105	99	79
Total, milk cattle	*3,757*	*3,727*	*3,602*	*3,265*	*3,062*	*2,867*
Meat cattle—						
Bulls used or intended for service	652	702	687	628	571	545
Cows and heifers (1 year and over)	13,800	14,897	15,202	14,021	12,728	11,770
Calves under 1 year	7,079	7,751	8,055	7,385	6,513	5,835
Other cattle (1 year and over)	5,551	5,716	5,888	6,235	6,456	6,090
Total, meat cattle	*27,082*	*29,066*	*29,833*	*28,269*	*26,268*	*24,241*
Total, all cattle	**30,839**	**32,793**	**33,434**	**31,533**	**29,330**	**27,107**

Comparison with other countries

WORLD CATTLE NUMBERS(*a*)

(Millions)

(*Source:* Australian Meat and Livestock Corporation)

Country	*1976*	*1977*	*1978*	*Country*	*1976*	*1977*	*1978*
Argentina	61	58	57	India	n.a.	241	243
Australia	33	32	29	Mexico	29	29	29
Brazil	98	97	100	United States of America . .	128	123	116
European Economic Community	78	77	78	U.S.S.R.	111	110	113

(*a*) Statistics are not shown for a number of Asian countries, including China.

Beef cattle production is often combined with cropping, dairying and sheep. In the north (north of the 26th parallel), cattle properties are very large, pastures are generally unimproved and fodder crops are rare. Beef is usually the only product and herd sizes are large. The industry is more intensive in the south because of the more favourable environment including more improved pasture.

For further details on cattle *see Livestock Statistics, Australia* (7203.0).

Sheep

With the exception of a short period in the early eighteen-sixties, when the flocks in Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep-raising. Western Australia is the second largest sheep raising State followed by Victoria. Sheep numbers reached a peak in Australia in 1970. They then declined up to March 1973 as producers turned off large numbers for slaughter and moved from wool-growing towards beef production. By 1975, the numbers had increased to 151,653,000, but in March 1978 the numbers had fallen to 131,442,000, the lowest since 1955. Improved seasonal conditions during 1978, which continued into 1979 have enabled producers to begin rebuilding their flocks. By March 1979, numbers had risen to 134.2 million.

SHEEP NUMBERS
(Millions)

31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust. (incl. N.T., A.C.T.)*
1974	53.3	25.8	13.1	16.4	32.5	4.0	145.2
1975	55.0	26.4	13.9	17.6	34.5	4.1	151.7
1976	53.2	25.4	13.6	17.3	34.8	4.2	148.6
1977	49.7	21.9	13.3	15.1	31.2	4.0	135.4
1978	48.0	22.0	13.4	14.1	29.8	4.0	131.4
1979p	48.4	22.8	13.6	14.9	30.3	4.2	134.2

SHEEP, BY AGE AND SEX
(Millions)

	Sheep: 1 year and over					
31 March	*Rams*	*Breeding ewes*	*Other ewes*	*Wethers*	*Lambs and hoggets (under 1 year)*	*Total, sheep and lambs*
1974	1.8	70.0	5.8	34.6	32.9	145.2
1975	1.9	70.6	7.0	37.1	35.0	151.7
1976	1.9	68.5	7.7	37.5	33.1	148.6
1977	1.7	64.7	6.3	34.8	27.8	135.4
1978	1.7	63.6	5.4	32.6	28.2	131.4
1979p	1.7	65.8	4.8	31.5	30.4	134.2

The sheep and wool industry is the most important rural industry in Australia; in 1978-79 provisional value of production data showed that the combined value of wool and sheep slaughtered accounted for nearly one-fifth the gross value of all agriculture. This proportion varies with wool and meat prices and seasonal conditions. In 1978 Australia had 14 per cent of the world's woolled sheep but produced 27 per cent of the world's greasy wool output. In addition, in 1978-79 the sheep industry produced just under half a million tonnes of mutton and lamb, a big decrease from the record production of 956,000 tonnes in 1971-72, which resulted from high slaughtering rates linked to very low wool prices prevailing at the time.

Comparisons with other countries

WORLD SHEEP NUMBERS AND WOOL PRODUCTION
(Compiled from the Commodities Division of the Commonwealth Secretariat)

Country	*World sheep numbers*			*Est. raw wool production*		
	1977	*1978*	*1979p*	*1977*	*1978*	*1979p*
	(millions)			('000 tonnes, greasy)		
Argentina	34.0	34.8	n.y.a.	176	172	171
Australia	135.4	131.4	134.2	703	677	703
Brazil	25.1	25.1	n.y.a.	35	28	29
China (excl. Taiwan Province)	59.0	59.0	n.y.a.	82	81	81
India	40.0	40.0	n.y.a.	35	35	35
Iran	35.3	35.4	n.y.a.	28	28	28
New Zealand	59.1	59.5	n.y.a.	303	311	315
South Africa	23.5	23.5	n.y.a.	103	106	105
Turkey	41.5	42.7	n.y.a.	54	54	54
United Kingdom	28.1	29.6	n.y.a.	48	47	49
Uruguay	16.0	16.5	n.y.a.	63	62	63
U.S.A.	12.8	12.3	12.2	53	50	47
U.S.S.R.	139.8	141.0	143.1	436	459	462
Total	*916.5*	*922.0*	*n.y.a.*	*2,508*	*2,509*	*2,533*

SHEEP AND LAMBS: ANALYSIS OF MOVEMENT IN NUMBERS
(Millions)

Year ended 31 March	*Number at beginning of season*	*Lambs marked*	*Live sheep exports*	*Sheep and lambs slaughtered(a)*	*Estimated deaths on farms(b)*	*Number at end of season*
1974	140.0	43.0	1.1	27.2	9.5	145.2
1975	145.2	46.2	1.4	27.2	11.2	151.7
1976	151.7	44.1	1.8	31.7	13.6	148.6
1977	148.6	38.4	3.0	34.1	14.6	135.4
1978	135.4	39.5	4.2	30.1	9.1	131.4
1979p	131.4	42.7	3.7	26.8	9.4	134.2

(*a*) Comprises statistics from abattoirs and other major slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers; also includes animals condemned or those killed for boiling down. (*b*) Balance item.

LAMBING

Year ended 31 March	*Number of breeding ewes at start of season*	*Mating intentions at start of season*	*Actual matings*	*Ratio of actual matings to intended matings*	*Lambs marked*	*Ratio of lambs marked to actual matings*	*Ratio of lambs marked to breeding ewes*
	million	million	million	per cent	million	per cent	per cent
1974	68.7	62.8	58.7	93	43.0	73	63
1975	70.0	65.2	60.9	93	46.2	76	66
1976	70.6	65.1	60.5	93	44.1	73	62
1977	68.5	63.0	58.0	92	38.4	66	56
1978	64.7	59.8	56.6	95	39.5	70	61
1979p	63.6	58.5	57.4	98	42.5	74	67

For further details on sheep, *see* the publications *Livestock Statistics, Australia* (7203.0) and *Wool Statistics, Australia* (7212.0).

Pigs

In line with the general trend of increased specialisation common to most rural industries, pig farming has developed into a separate industry, being no longer associated with the dairy industry. During the period of wheat quotas and generally low grain prices, pig raising became a profitable outlet for non-quota wheat, but higher grain prices during the mid 1970s led to some contraction in the pig industry. Since 1975 numbers have stabilised at approximately 2.2 million pigs. Pig raising became increasingly associated with inland areas, though most are raised on farms, usually in association with dairy and cereal production. Grains form the basis of most pig rations and this has assisted with the movement to inland grain-growing districts. This is less marked in coastal regions where skim milk, the traditional source of pig feed, is being diverted to other uses.

PIG NUMBERS
('000)

31 March	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust. (incl. N.T., A.C.T.)*
1974	835	424	441	385	344	68	2,505
1975	729	383	400	349	264	64	2,197
1976	709	393	409	326	260	70	2,173
1977	760	397	441	317	242	65	2,229
1978	737	401	463	311	237	64	2,217
1979p	725	390	487	330	271	61	2,268

For further details on pigs *see* the publication *Livestock Statistics, Australia* (7203.0).

Poultry

Once part of the mixed farming sector, the poultry industry is now a highly specialised and distinct industry. The bulk of production is obtained from this commercial source, though many farm households and some private homes in suburban areas keep poultry to supply their domestic needs. Some supplies from this source are also marketed. Because the data from this latter sector is incomplete, total poultry numbers for Australia are not available. There is an increasing tendency for specialisation within the industry into hatcherymen, egg producers and broiler producers. These sectors of the industry each have separate statistics. There are also separate research schemes for the egg and meat chicken industries. Both sectors are good examples of the general movement towards specialised, large scale, capital-intensive production which is common to all rural industries.

POULTRY NUMBERS(*a*)
('000)

	Chickens				*Other Poultry*			
31 March	*Hens and pullets for egg production*	*Meat strain chickens (broilers)*	*Other fowls and other chickens*	*Total chickens*	*Ducks*	*Turkeys*	*Other poultry*	*Total all poultry*
1974	17,043	24,724	2,384	44,151	265	540	(*b*)	44,956
1975	16,409	22,592	1,758	40,759	164	413	(*b*)	41,336
1976	15,905	25,306	1,566	42,778	254	333	(*b*)	43,365
1977	15,982	27,184	(*b*)	43,166	187	347	397	44,097
1978	15,773	26,681	(*b*)	42,454	163	322	330	43,269
1979p	14,920	27,603	(*b*)	42,524	247	448	323	43,542

(*a*) Data are for numbers of poultry on rural establishments as reported in the annual Agricultural Census. (*b*) Not collected.

Hatchings. These details relate to all eggs set and to chicks hatched in commercial hatcheries whether for sale as day-old chicks or for replenishment of own flocks.

EGGS SET AND CHICKENS HATCHED IN COMMERCIAL HATCHERIES
('000)

		Chickens hatched, intended for—		
		Chicken meat		
Year	*Eggs set(a)*	*Meat strains(b)*	*Egg strains(c)*	*Egg production(d)*
1973–74	253,881	151,654	1,686	17,624
1974–75	225,610	140,139	856	15,634
1975–76	242,351	158,088	585	14,664
1976–77	260,697	168,724	515	15,578
1977–78	277,563	186,987	473	13,933
1978–79p	297,151	204,324	478	13,721

(*a*) Includes meat and egg strains and eggs which failed to hatch. (*b*) Unsexed. (*c*) Crossbred and other cockerels; unsexed egg strain chickens are evenly distributed to chicken meat chickens and egg production chickens. (*d*) Pullets.

For further details on poultry *see* the publication *Livestock Statistics, Australia* (7203.0) and *Chicken Hatchings and Poultry Slaughterings, Australia* (7207.0).

Meat production, slaughterings and other disposals

The ABS collects details of slaughterings and meat production from abattoirs, commercial poultry and other slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers. The data relates only to slaughterings for human consumption and does not include animals condemned or those killed for boiling down.

PRODUCTION OF MEAT BY TYPE(*a*)
('000 tonnes)

	Carcass weight						*Dressed weight(b)*	
Year	*Beef*	*Veal*	*Mutton*	*Lamb*	*Pig meat*	*Total meat*	*Chickens*	*Total all poultry(c)*
1973–74	1,279	43	231	236	211	2,000	171	193
1974–75	1,494	53	258	269	175	2,249	166	189
1975–76	1,759	82	326	262	174	2,602	184	204
1976–77	1,893	95	304	246	185	2,722	196	218
1977–78	2,082	102	261	253	199	2,897	220	246
1978–79p	1,954	69	239	248	198	2,708	244	271

(*a*) Excludes offal. (*b*) Dressed weight of whole birds, pieces and giblets. (*c*) Includes other fowls, turkeys, ducks and drakes.

PRODUCTION OF MEAT : AUSTRALIA 1931-32 TO 1978-79
('000 TONNES)

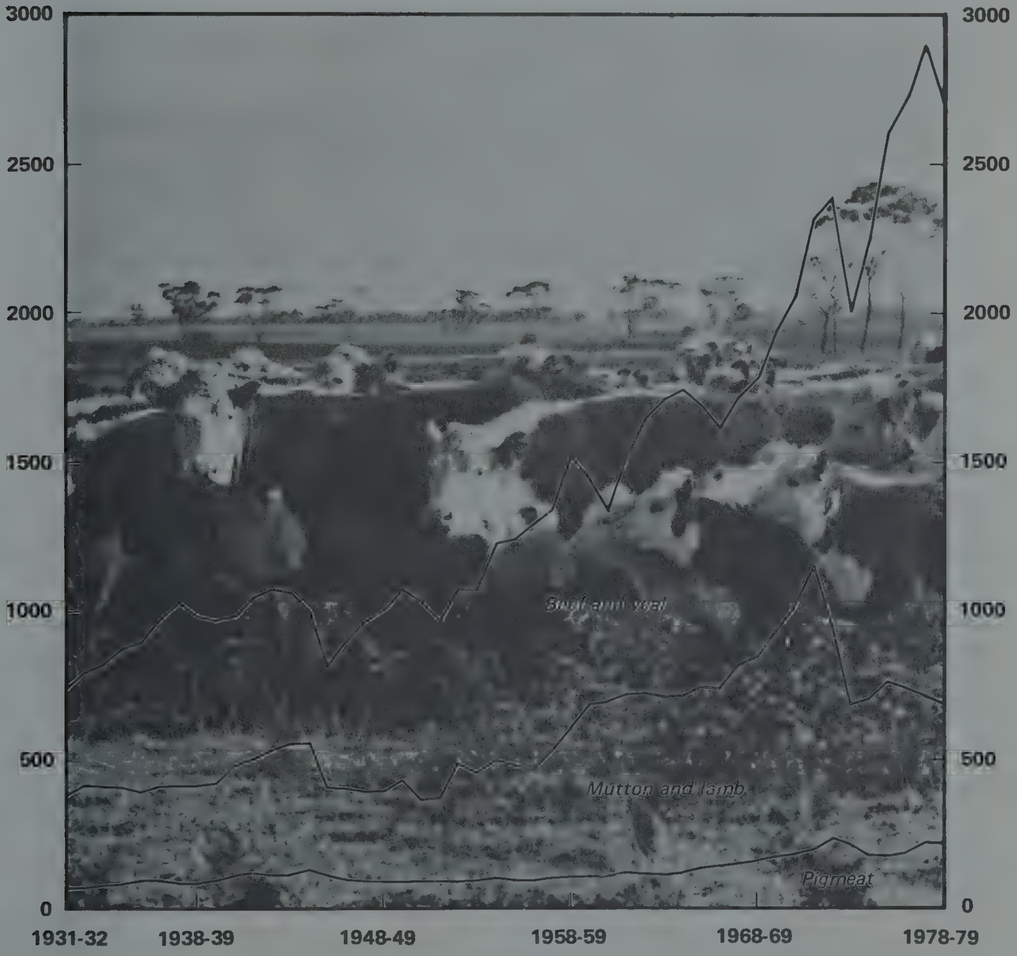


PLATE 36

NUMBERS OF LIVESTOCK AND POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION
(Million head)

Year	*Cattle*	*Calves*	*Sheep*	*Lambs*	*Pigs*	*Chickens (a)*	*Other fowls (b) and turkeys*	*Ducks and drakes*
1973-74	6.1	1.2	11.3	13.9	4.2	139.8	10.1	1.2
1974-75	6.9	1.5	12.7	16.0	3.4	134.2	10.5	1.3
1975-76	8.5	2.1	16.8	16.1	3.3	144.2	9.2	1.2
1976-77	9.5	2.4	16.3	15.3	3.5	155.1	9.8	1.3
1977-78	10.5	2.5	13.8	15.3	3.7	174.7	10.7	1.7
1978-79p	9.5	1.8	12.1	14.6	3.6	191.0	10.8	1.8

(*a*) Comprises broilers, fryers and roasters. (*b*) Comprises hens, roosters, etc.

Mutton and lamb

Australian farming is dominated by multi-enterprise farms; in particular, wool and meat production are closely related activities and in some periods the need to compensate for low incomes from wool has led to increased emphasis on lamb production. The strengthening of wool prices during 1972–74 saw a marked decline in lamb and mutton production from the record levels of 1971–72 at which time wool prices were at their lowest level since 1946–47. Flock numbers had been declining from the March 1970 peak of 180.1 million as poor seasonal conditions and the rising trend in beef prices, apparent since 1964–65 and which accelerated in 1972–73, induced many woolgrowers to either diversify or switch completely into beef production. Beef prices were viewed as less volatile than those for wool. Sheep numbers started to expand slowly again after the sudden collapse in beef prices during 1973–74, although poor seasonal conditions over 1976–78 partially halted this build-up and saw a slight pick-up in mutton and lamb production. Numbers recovered somewhat during 1978–79 which saw an improved season, firm wool prices and continued strengthening of sheepmeat prices as production of sheepmeat levelled out.

Consumption of lamb and mutton dropped sharply in 1972–73 due to the high prices of these meats as farmers attempted to rebuild their flocks following the recovery in wool prices and the relatively low beef retail prices. Substitution of beef was especially significant after the 1973–74 fall in beef prices. However, this downward trend in sheepmeat consumption appeared to be slowing in 1978–79 as beef prices rose relative to sheepmeat prices. The market for sheepmeat has been relatively buoyant since 1978 due largely to increased demand on export markets. The domestic market absorbs a high proportion of Australian lamb production although the Middle East has purchased sizeable quantities in recent years. Australia is the world's largest exporter of mutton at present, the main outlets being Japan and Korea.

Beef and Veal

Since the late 1960s, beef and veal production in Australia has more than doubled reaching a peak of 2.1 million tonnes in 1976–77 and 1977–78. While this rise followed a rapid expansion of the beef herd during the late 1960s and early to mid 1970s, the peak production levels were associated with low beef prices, poor seasonal conditions and producer liquidity pressure. The year 1978–79 has seen a change in this trend with beef and veal production at 2,023 thousand tonnes carcass weight, down 7.4 per cent on the 1977–78 record level of 2,184 thousand tonnes carcass weight, cattle numbers down 20 per cent on the 1976 level and slaughterings 12.4 per cent below the record 1977–78 level. The stimulus for expansion came mainly from the development of overseas markets as approximately half of all beef and veal produced in Australia is exported, with the U.S.A., Japan and Canada accounting for around 60 per cent of this. However, with poor economic conditions and heavy domestic supplies of beef in the mid 1970s many of the major importing countries imposed quantitative limitations on their beef imports. Major beef exporting countries, such as Australia, were hard hit: returns to Australian producers were depressed for four years. Beef and veal exports during 1978–79 totalled a record 1,212,300 tonnes carcass weight, 8.7 per cent above the level of 1977–78. This dramatic recovery in livestock saleyard and domestic beef retail prices, since 1977–78 in response to strengthened export demand has seen a growing proportion of total beef and veal output being shipped to export markets.

Pigmeat

Pigmeat production peaked at 236,000 tonnes in 1972–73. Subsequent recovery has been slow and production has remained at around 200,000 tonnes carcass weight over 1977–78 and 1978–79, although numbers have fallen slightly over this period. Over half the pigmeat produced is sold as pork, with the remainder as bacon, ham and smallgoods.

A relatively small amount of pigmeat is exported, with levels fluctuating significantly from year to year. Papua New Guinea and Japan are major importers.

Poultry

The poultry meat industry has developed rapidly since 1970 and both output and consumption have risen steeply. Genetic and technical improvements and the organisation of the industry into large-scale enterprises have raised efficiency and helped to reduce production costs relative to other meats. The price competitiveness of chicken meat compared with other meats, especially beef, continues to improve consolidating the position of poultry meat as the second most important meat after beef in Australian diets.

EXPORTS OF FRESH, CHILLED OR FROZEN MEAT

Year	*Beef*	*Veal*	*Mutton*	*Lamb*	*Pork*	*Poultry*
		QUANTITY (*a*) ('000 tonnes)				
1973–74	704.7	25.2	103.6	22.5	8.6	4.3
1974–75	601.0	10.2	120.7	24.6	1.1	5.1
1975–76	783.4	16.8	201.5	28.9	5.2	5.0
1976–77	919.7	17.1	241.5	59.8	3.1	4.7
1977–78	1,095.5	19.8	199.0	57.0	1.3	5.6
1978–79p	1,191.4	20.9	169.2	46.5	1.9	6.7
		VALUE f.o.b. ($ million)				
1973–74	610.6	25.1	62.5	16.7	8.1	3.3
1974–75	315.8	6.4	48.9	15.5	1.6	4.3
1975–76	475.3	11.5	81.2	20.3	7.6	4.3
1976–77	603.7	14.5	121.3	46.3	4.6	5.6
1977–78	807.8	18.1	123.9	57.2	2.2	6.6
1978–79p	1,339.5	26.6	135.2	52.0	3.7	8.0

(*a*) Quantity data on beef, veal, mutton and lamb exports are shown in carcass weight equivalents.

Exports of live animals

During the 1970s exports of live sheep to the Middle East for slaughter have substantially increased from 800,000 in 1971–72 to 3.9 million in 1978–79. Over the last five years a substantial trade in cattle for slaughter has developed, primarily with Hong Kong and other Asian countries and exports of breeding cattle especially have picked up in the past two years. During 1978–79 some 90,000 head of cattle were exported for either breeding or slaughter purposes.

For details of the regulation governing the export (and import) of live animals *see* Year Book No. 61 page 848.

EXPORTS OF LIVE ANIMALS

	Livestock			*Poultry*		
		Total(a)			*Total*	
Year	*Sheep and Lambs*	*Number*	*Value f.o.b.*	*Day old chicks*	*Number*	*Value f.o.b.*
	—'000—		$'000	—'000—		$'000
1973–74	1,061	1,086	26,528	347	436	250
1974–75	1,449	1,461	22,931	204	253	166
1975–76	1,845	1,869	23,231	256	284	242
1976–77	3,388	3,431	57,109	279	329	205
1977–78	4,124	4,188	98,069	503	584	387
1978–79p	3,871	3,961	110,634	441	617	621

(*a*) Also includes cattle, calves, buffaloes and pigs.

PRODUCTION AND EXPORT OF BACON, HAM AND CANNED MEAT

Year	*Production*			*Exports*			
	Bacon and ham(a)		*Canned meat(b)*	*Bacon and ham(c)*		*Canned meat(d)*	
	Bone-in	*Bone-out*		*Quantity*	*Value*	*Quantity*	*Value*
	tonnes	tonnes	tonnes	tonnes	$'000 f.o.b.	tonnes	$'000 f.o.b.
1973-74	23,143	37,802	55,760	492	813	22,517	25,289
1974-75	17,638	36,850	42,422	438	695	15,226	18,221
1975-76	16,042	38,218	45,193	386	761	20,605	24,541
1976-77	15,848	43,432	52,677	489	1,127	30,294	36,393
1977-78	15,746	49,030	49,347	539	1,479	24,114	35,660
1978-79p	19,748	51,868	45,356	564	1,730	29,135	52,330

(*a*) Production of bacon and ham 'on the bone' is shown in terms of 'bone-in' weight, while production of boneless bacon and ham is shown in terms of 'bone-out' weight. Production of canned bacon and ham, which is reported in terms of 'stated net weight of packs', is included in the 'bone-out' category. (*b*) Canned weight. Includes bacon, ham and meat and vegetables, but excludes rabbit, poultry and baby foods. (*c*) Cured carcass weight of smoked or cooked bacon and ham. Includes 'stated net weight of packs' of canned bacon and ham. (*d*) Canned weight; excludes canned bacon and ham.

GROSS VALUE OF LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS(*a*)
(**$ million**)

Year	*Cattle and calves*	*Sheep and lambs*	*Pigs*	*Poultry*	*Total*
1973-74	1,069.1	321.4	173.0	132.5	1,696.0
1974-75	523.4	178.3	177.7	139.8	1,019.2
1975-76	706.3	203.9	183.3	152.9	1,246.4
1976-77	1,010.8	299.0	197.4	178.4	1,685.7
1977-78	1,177.1	359.9	212.8	220.0	1,969.7
1978-79p	2,155.2	444.0	244.4	255.6	3,099.1

(*a*) Includes adjustment for net exports (overseas and interstate) of live animals.

Consumption

Owing to diverse cutting practices by butchers and because of the difficulty of clearly defining the term 'retail weight of meat', it is considered impractical to derive a satisfactory factor for the purpose of expressing estimated meat consumption in terms of retail weight. Depending on cutting practices employed and whether or not bones, etc. sold to customers are included in retail weight of meat, the following retail weights as a proportion of carcass weight are generally acceptable: beef, 60 per cent to 75 per cent; mutton and lamb, 80 per cent to 95 per cent; pork 90 per cent to 95 per cent.

APPARENT CONSUMPTION OF MEAT AND MEAT PRODUCTS AS HUMAN FOOD

Year	*Beef and veal*	*Mutton*	*Lamb*	*Pigmeat(a)*	*Bacon and ham*	*Canned meat*	*Poultry meat*
			TOTAL ('000 tonnes)				
1973-74	555	116	208	90	73	33	184
1974-75	881	123	243	70	67	31	187
1975-76	936	98	231	61	72	23	201
1976-77	976	66	188	61	78	24	222
1977-78	964	53	195	61	89	24	239
1978-79p	784	64	199	53	n.y.a	n.y.a	269
			PER CAPITA PER YEAR (kg)				
1973-74	41.1	8.6	15.4	6.7	5.4	2.4	13.6
1974-75	64.3	9.0	17.7	5.1	4.9	2.3	13.6
1975-76	67.6	7.0	16.7	4.4	5.2	1.7	14.5
1976-77	69.7	4.7	13.4	4.4	5.6	1.7	15.8
1977-78	68.1	3.7	13.8	4.3	6.3	1.7	16.9
1978-79p	54.7	4.5	13.9	3.7	n.y.a	n.y.a.	18.8

(*a*) Comprises pork and includes smallgoods and estimates for trimmings from baconer carcasses.

NOTE: Beef, veal, mutton, lamb and pigmeat are expressed in terms of carcass weight, bacon and ham in cured carcass weight, canned meat in canned weight and poultry meat in dressed weight.

For further details on meat production and slaughtering *see* the following publications: *Meat Statistics, Australia* monthly (7204.0), quarterly (7205.0) and annual (7206.0), *Chicken Hatchings and Poultry Slaughterings, Australia* (7207.0), *Value of Agricultural Commodities Produced, Australia* (7503.0) and *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

The Australian Meat and Livestock Corporation

Legislation was enacted to establish the Australian Meat and Livestock Corporation from 1 October 1977. This Corporation, which regulates and promotes meat and livestock exports, replaced the Australian Meat Board. (*See* Year Book No. 61, page 851 for particulars of that Board's functions).

Two groups—The Meat and Livestock Exporters and Abattoir Operators Consultative Group and the Livestock Producers Consultative Group—are responsible for nominating corporation members and will:

- advise the Corporation on important matters such as trade and market matters; and
- disseminate information on Corporation decisions and policies to people engaged in the meat and livestock industries.

In addition to the Consultative Groups, an Australian Meat Industry Conference has been established. It is representative of all parties with an interest in matters for which the Corporation is responsible and includes representatives of producers, exporters, meatworks, packers, processors, livestock agents, unions and consumers. The Conference, meeting annually, provides a forum in which organisations representing the diverse interests of the meat and livestock industries debate issues of concern to them.

The Corporation's main functions are to encourage, assist, promote and control the export of meat and livestock from Australia, and to promote the sale of meat in Australia. It has the authority, also, to perform a range of other functions aimed at improving the production of meat and livestock and for the general benefit of the meat and livestock industries.

Finance

A component of both the Livestock Slaughter Levy and Livestock Export Charge is used to finance the Corporation's activities.

Beef Industry (Incentive Payments) Act

This Act was promulgated on 31 October 1977. Its purpose was to enable payments to be made to beef producers, provided they met certain conditions related to cattle husbandry procedures, including carrying out recognised disease control. The legislation provided for producers owning fifty or more marked cattle kept for beef production to make claims for recognised procedures taken between 23 September 1977 and 22 September 1978. Recognised disease control processes included:

- dipping and similar treatment for external parasites,
- drenching for internal parasites,
- brucellosis and tuberculosis eradication, and
- vaccinations.

The subsidy was limited to $2,000 per producer, with companies, partnerships and trusts being treated as individual producers.

For further details on topics such as the Livestock Slaughter Levy, various meat research schemes and international agreements, *see* Year Book No. 61, pages 851–853.

Wool

With about one-seventh of the world's woolled sheep, Australia produces about one-third of the world's wool and more than half the world's fine-quality Merino wool. More than 90 per cent of the production is exported, mainly as greasy wool, although substantial amounts of scoured and carbonised wool, wool on sheep skins and small quantities of semi-manufactured wool are also shipped.

Wool production

Wool as shorn from the sheep contains an appreciable amount of grease, dirt and other extraneous matter, and is termed 'greasy wool'. The quantity of grease and other matter in a fleece differs not only between countries, but between districts in the same country. It fluctuates with the vagaries of the season, and with the breed and the condition of the sheep. To allow for this factor, the weight of greasy wool is sometimes given on a 'clean' basis, i.e. minus the estimated amount of impurities. The net wool fibre content of greasy wool, expressed as a percentage, is termed 'clean yield'.

Since the 1946–47 season, the average clean yield of Australian wool has been assessed annually. This work was initiated by the former Australian Wool Realisation Commission and is carried on by the Australian Wool Corporation. During the period of assessment the clean yield showed a continuous rise up to 1951–52, when it reached 57.5 per cent. It was 59.93 per cent in 1977–78.

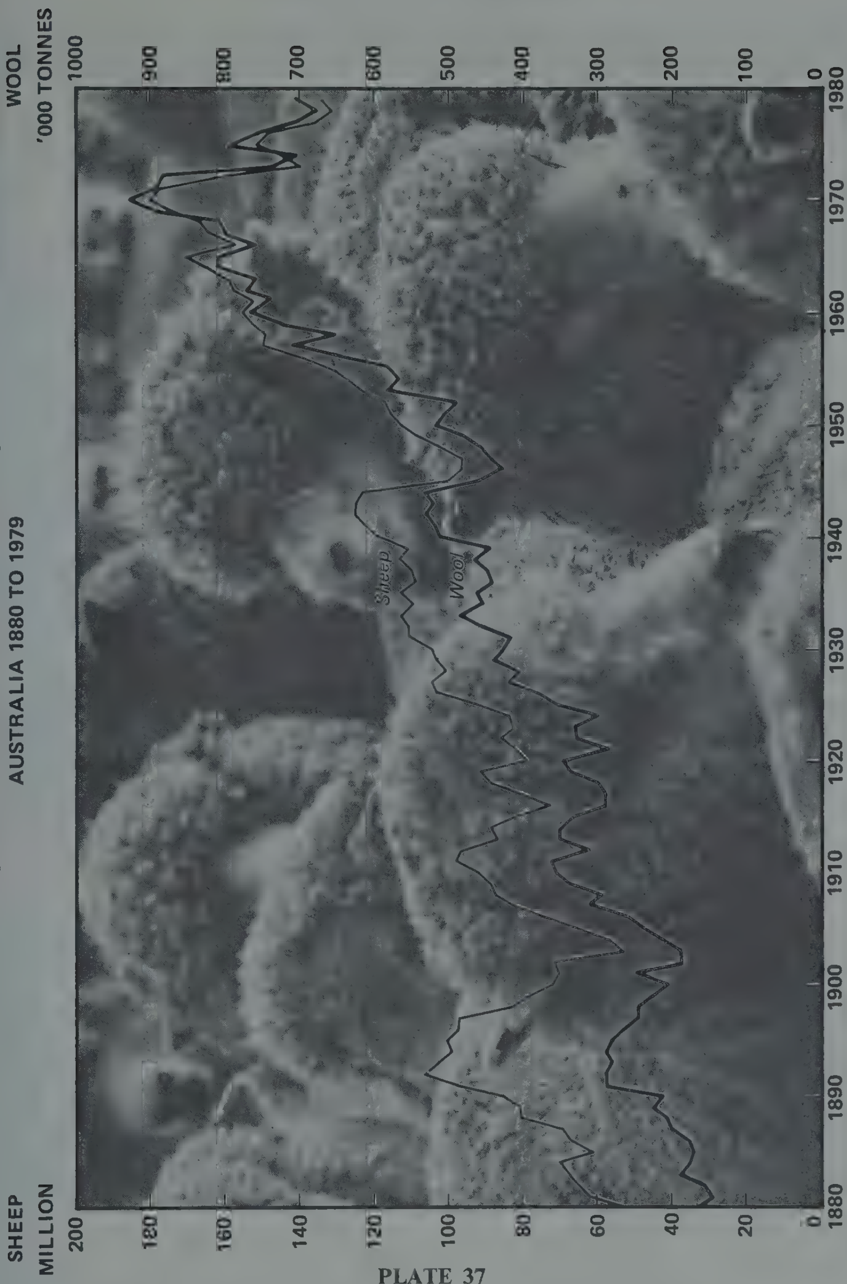
Wool scoured and carbonised in Australia before export, however, has a somewhat lower clean yield than the whole clip, because much of greasy wool treated locally for export in this form is dirty low-grade wool. The quantity of scoured and carbonised wool exported during 1978–79 was about 12 per cent of total raw wool exports in terms of greasy. For the clean yield of Australian scoured wools exported a standard factor of 93 per cent has been adopted.

The following table shows details of total wool (i.e. shorn, dead, fellmongered, and exported on skins) as well as the numbers of animals shorn, the average fleece weight and the gross value of the wool. A graph showing the production of wool in relation to the number of sheep appears on Plate 37, page 349.

SHEARING, WOOL PRODUCTION AND VALUE

Year	Sheep and lambs shorn	Average fleece weight	Wool production			
					Total wool	
			Shorn wool	Other wool(*a*)	Quantity	Gross value (*b*)
	million	kg	'000 tonnes	'000 tonnes	'000 tonnes	$m
1973–74	150.6	4.28	644.3	56.6	700.9	1,229
1974–75	161.9	4.48	725.3	68.2	793.5	953
1975–76	159.6	4.27	681.4	72.8	754.3	1,000
1976–77	145.8	4.28	623.9	78.8	702.7	1,173
1977–78	143.5	4.22	605.5	71.6	677.0	1,206
1978-79p	147.1	4.38	644.4	59.0	703.4	1,354

(*a*) Comprises dead and fellmongered wool, and wool exported on skins. (*b*) Gross value is based, for shorn wool, upon the average price realised for greasy wool sold at auction and, for skin wools, on prices recorded by fellmongers and skin exporters.



SHEEP NUMBERS AND WOOL PRODUCTION
AUSTRALIA 1880 TO 1979

PLATE 37

Wool receivals

The ABS collects details of the amount of taxable wool received by brokers and dealers from wool producers; this excludes wool received by brokers on which tax has already been paid by other dealers (private buyers) or brokers.

TAXABLE WOOL RECEIVALS

Year	*Receivals* Brokers (NCWSB)	Dealers(*a*)	Brokers and dealers	Dealers as per cent of total receivals	Shorn wool production(*b*)
	—'000 tonnes—			per cent	'000 tonnes
1973–74	507.3	117.1	624.4	18.8	644.3
1974–75	593.9	135.3	729.2	18.5	725.3
1975–76	525.2	161.6	686.9	23.5	681.4
1976–77	476.5	151.5	628.0	24.1	623.9
1977–78	459.2	155.2	614.4	25.3	605.5
1978–79p	481.9	160.4	642.3	25.0	644.4

(*a*) Includes brokers who are not members of the National Council of Wool Selling Brokers of Australia (NCWSB). (*b*) Obtained from the annual Agricultural Census.

Some twenty "pastoral houses" operate as wool selling brokers and handle the greater part of the Australian wool clip, arranging the disposal of growers' consignments through the auction system. During the last 15 years, however, private treaty trading has re-emerged as a significant alternative method of disposal. In the seventies there has been a big increase in private trading reaching a quarter of the 1978–79 clip. The proportions vary between States, with Western Australian private buyers in 1973–74 taking 39 per cent of the total receivals in that State.

Prices

Fluctuations in Australian wool prices have a marked effect on rural and national income. In 1945–46 the gross value of wool was $117.2 million, representing 17.4 per cent of the gross value of all agricultural commodities produced, while in 1950–51, when prices reached a peak during the Korean War, wool was valued at $1303.8 million or 55.6 per cent of total agricultural industries.

Year	Value of wool as a per cent of total agriculture	Value of wool exports as a per cent of total Australian exports
1973–74	19.2	18.6
1974–75	16.2	9.3
1975–76	16.2	11.0
1976–77	17.3	14.0
1977–78	17.3	10.8
1978–79p	13.7	12.3

Stocks

Stocks shown below of raw and semi-processed wool were held by wool processors, scourers, fellmongers, brokers, dealers and the Australian Wool Corporation. They exclude wool on skins since this wool is not recorded as production until fellmongered in Australia or exported on skins.

WOOL STOCKS
('000 tonnes)

At 30 June	Stocks of— Raw wool(a) Greasy	Raw wool(a) Clean	Semi-processed wool Greasy	Semi-processed wool Clean	Total wool Greasy	Total wool Clean
1973	114.5	63.6	11.2	6.3	125.7	70.1
1974	181.8	104.3	10.5	6.1	192.4	110.4
1975	450.1	268.7	7.5	4.5	457.7	273.2
1976	372.9	223.2	9.5	5.7	382.4	228.9
1977	265.6	156.3	8.7	5.2	274.2	161.4
1978	225.8	134.4	8.7	5.2	234.5	139.6

(*a*) Includes from about 1971 or 1972 varying amounts of stock held overseas by the Australian Wool Corporation: 1974, 5,600 tonnes greasy; 1975, 34,200 tonnes greasy; 1976, 35,600 tonnes greasy; 1977, 46,900 tonnes greasy; 1978, 46,600 tonnes greasy.

Wool consumption

Two series of calculations on Australian wool consumption are shown below.

1. Consumption of raw wool, which measures consumption in terms of scoured wool used by mills.
2. Consumption of processed wool, which is calculated from the usage of woollen and worsted yarn.

Raw wool comprises greasy, slipe, scoured and carbonised wool. This series has been included for comparison purposes with other countries.

This second series is considered to be a more satisfactory measure of Australian wool consumption, principally because allowance is made for significant quantities of wool tops exported. However, both series relate to consumption of wool by the wool textile industry, and should not be used as measures of consumption in terms of retail purposes. It has not been possible to estimate wool consumption at the retail level because of the impracticability of obtaining reliable data concerning the wool content of the multiplicity of woollen and worsted piece-goods and finished articles exported and imported and held as stock by manufacturers, wholesalers and retailers.

CONSUMPTION OF RAW AND PROCESSED WOOL
('000 tonnes)

Year	Consumption of raw wool Greasy	Consumption of raw wool Clean	Consumption of processed wool — Worsted yarn used (a) Greasy	Worsted yarn used (a) Clean	Woollen yarn used (b) Greasy	Woollen yarn used (b) Clean	Total Greasy	Total Clean
1972–73	55.5	32.2	21.4	12.2	17.6	10.6	40.0	23.3
1973–74	45.7	26.0	16.5	9.2	17.5	10.3	35.1	20.1
1974–75	31.3	18.2	10.9	6.3	14.3	8.6	26.3	15.4
1975–76	48.7	26.9	14.3	7.8	17.3	9.9	32.7	18.2
1976–77	49.1	27.0	12.7	6.8	15.0	8.5	28.7	15.9
1977–78	46.4	27.6	11.9	6.9	14.2	8.8	27.3	16.3

(*a*) Wool content of yarns containing a mixture of wool and other fibres. (*b*) Comprises pure and mixed woollen yarn.

Exports of wool

In 1978–79, of the 566,577 tonnes of greasy and slipe wool exported, 154 thousand (27 per cent) went to Japan. Other large shipments were 15 per cent to the U.S.S.R., 8 per cent to Italy and 7 per cent to both the Federal Republic of Germany and France.

EXPORTS OF WOOL

	Selected exports ('000 tonnes: greasy basis)			*Total exports*	
Year	*Greasy and slipe*	*Scoured and carbonised*	*Exported on skins*	*Greasy basis (a)*	*Value f.o.b.*
				'000 tonnes	$m
1973–74	488.1	41.4	51.0	591.7	1,248
1974–75	456.9	58.0	61.4	585.6	786
1975–76	583.5	67.9	65.5	731.1	1,032
1976–77	675.6	81.5	70.9	849.1	1,587
1977–78	493.6	69.5	64.5	645.9	1,291
1978–79p	566.6	88.3	53.1	728.4	1,693

(*a*) Includes processed wool.

Wool marketing

There is no Government control over the marketing of Australian wool, but the Australian Wool Corporation (AWC), a Commonwealth statutory authority, performs functions aimed at assisting the orderly and efficient disposal of wool, as well as encouraging demand. Central to this is a floor price scheme, under which the Government (since 1974–75) sets a minimum floor price for wool at the beginning of each season. The Corporation sets prices for each category, based on the Government's indicator price, and then buys wool which does not make the floor price at auction. It also buys wool during other temporary dips in the market, under its flexible reserve operations. The wool purchased is held in stock and sold when the market improves, with a view to stabilising the market. The major finance for the Scheme comes from a 5 per cent levy on growers' gross returns from wool, but in 1978–79 the reserve price operations returned a profit of $24.1 million. Net profits earned and interest paid by the Corporation on use of the Fund are added to grower contributions in the Market Support Fund.

Growers also pay a 3 per cent levy on their income from wool to finance wool promotion world-wide and research, with substantial contributions also coming from the Commonwealth Government. Most of the promotion funds are remitted to the International Wool Secretariat, which is based in London, for promotion outside Australia. Australia provides two-thirds of the I.W.S. budget.

The Corporation has, as required under the *Wool Industry Act* 1972, been active since its formation on 1 January 1973 in encouraging more efficiency within the existing marketing system. Changes in the system include a swing to sale predominantly by samples of wool rather than by bales displayed on the showroom floor; denser and improved packaging and a substantially reduced rate of increase in overseas shipping freight rates for wool.

Funds for other activities of the Corporation (notably wool promotion) are provided jointly by woolgrowers, through a levy on shorn wool proceeds and the Commonwealth Government. In October 1977, the AWC commenced a wool marketing trial known as the Limited Offer to Purchase Scheme (LOPS). The object of the scheme is to demonstrate handling and selling economies which can be achieved by improved methods of wool handling, packing and transporting. Advantages of the scheme for woolgrowers include a reduction in standard handling charges, payment in full no later than 15 working days after receipt of the last bale of a clip or portion of a clip purchased, and a purchase price set on current market prices. Under the conditions laid down by the Government for the trial the AWC has authority to purchase up to 150,000 bales direct from woolgrowers in each twelve month period of the trial. The scheme will terminate on 30 June 1980.

Objective measurement of wool. Since the commercial introduction of this technique in 1971, an increasing proportion of the Australian wool clip has been sold by sample and objective measurement rather than by traditional showing and subjective appraisement. In 1978–79, almost 80 per cent of wool sold at auction was sold in this way. Sale by sample and objective measurement is a procedure in which a representative sample of wool together with a laboratory test certificate giving data on the important value-determining characteristics of the wool (yield, fibre diameter and vegetable matter content) is accepted by woolbuyers as a sufficient basis for their purchases.

Year Book No. 61 contains a description of some of the regulations, statutory bodies, levies, etc., operating in the wool industry. Topics covered include: the Australian Wool Industry Conference, the Randall Committee, Wool Levy, the Commonwealth Government's contribution to wool research and promotion, and the development of objective measurement of wool.

For further details on sheep shorn, wool production and overseas trade *see* the following publications: *Livestock Statistics, Australia* (7203.0), *Sheep Numbers, Shearing and Wool Production, Australia* (7211.0), *Wool Production and Shearing, Australia* (7210.0), *Wool Statistics, Australia* (7212.0), *Brokers and Dealers Receivals of Taxable Wool, Australia* (monthly) (7213.0), *Overseas Trade, Australia* (5409.0, 5410.0), *Production Bulletin No. 4, Australia* (8360.0) and *Value of Agricultural Commodities Production, Australia* (7503.0).

Dairying

Dairying in Australia occurs mainly in the south-eastern region of the mainland, and in Tasmania, where rainfall is ample and fairly reliable. It is predominantly coastal, but has also developed inland in small areas close to population centres and, on a larger scale, in some irrigated regions in the Riverina of New South Wales and northern Victoria.

Australian dairy cattle have shown steady improvement in quality, as demonstrated by milk yield, over the years. This is attributable to improved breeding associated with herd recording, better feeding resulting from the use of improved pastures, and better farming methods arising from the development of modern farm machinery and the application of the results of research.

A significant development in recent years has been the shift away from on-farm separation and delivery of cream to factories to a widespread system of refrigerated bulk milk delivery. The Commonwealth Government encouraged this transformation by providing interest-free loans under the Australian Dairy Adjustment Program.

The manufacturing and processing sections of the industry are well advanced technologically and certain techniques and equipment developed in Australia are now being adopted overseas. State Agricultural Departments give advice on approved methods of production and inspect animals, buildings and marketable produce, to ensure that the latest advances in technology are passed on to the farmer and that hygiene standards are maintained at a high level.

MILK CATTLE NUMBERS
('000)

		Cows and heifers used or intended for production of milk or cream for sale			
			Heifers		
31 March	*Bulls used or intended for service*	*Cows (in milk and dry)*	*1 year and over*	*Under 1 year*	*House cows and heifers(a)*
1974	77	2,371	633	554	121
1975	78	2,355	634	537	122
1976	72	2,345	595	467	122
1977	64	2,174	537	385	105
1978	60	2,056	480	367	99
1979p	55	1,925	445	371	77

(*a*) One year and over, kept for the rural establishment's own milk supply.

The problems previously facing the Australian dairy industry are largely being solved by the attrition of smaller farms and factories and the concentration of milk production and processing facilities into larger units in the most suitable dairy areas of each State. The recent tendency for milk production and domestic butter consumption to stabilise, together with rising domestic demand for other dairy products such as cheese and improved average returns for the smaller quantities of exports, are benefiting both cost containment and income levels.

Domestic market

In recent years there has been a marked swing from the production of butter and its by-products, skim milk powder and casein, to cheese and whole milk powder, accompanied by an increased percentage of total milk production entering direct human consumption and wet products such as yoghurt and table cream. This latter aspect has been accompanied by the emergence of State Dairy Authorities and Milk Boards. Producer income disparities are appearing between States, mainly as a result of differences in the percentage of each State's production entering the higher priced direct human consumption liquid milk market.

The combination of the reduced milk production and growth in population has increased the importance of the domestic market and reduced the milk equivalent of exports, to the extent that permission to export prescribed products has been suspended from time to time to ensure adequate domestic butter and skim milk powder supplies. Increased emphasis is being placed on domestic distribution and quality and efforts to control cheese imports to prevent them disrupting its domestic price structure.

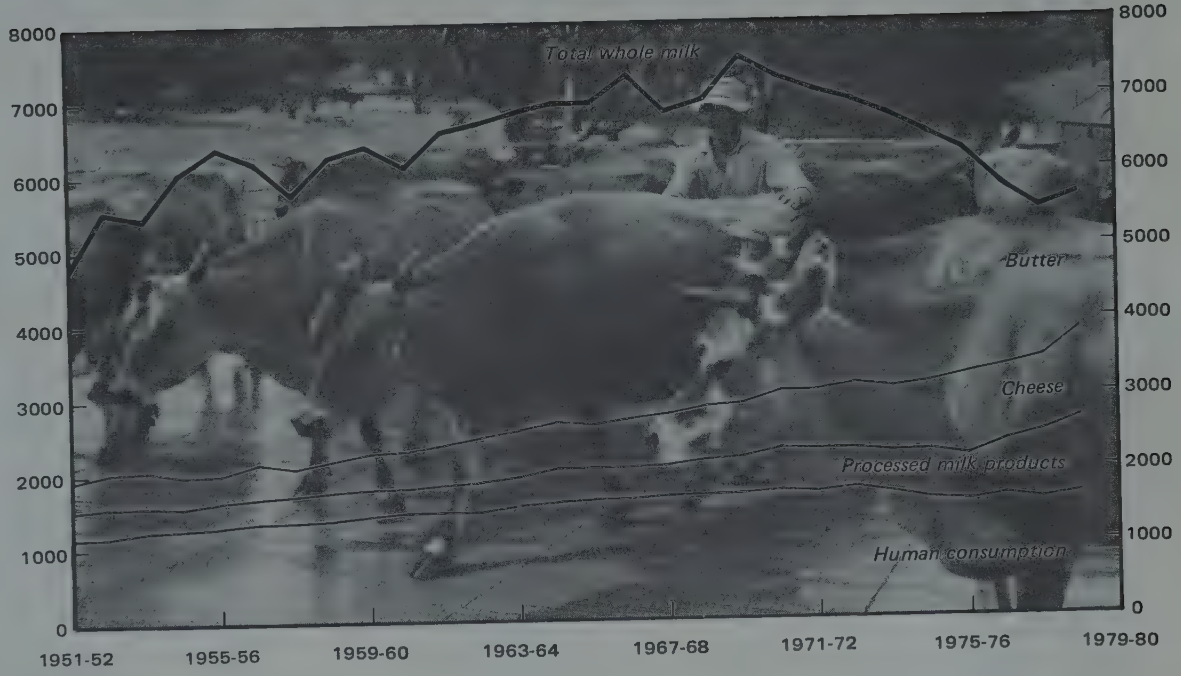
PRODUCTION, UTILISATION AND GROSS VALUE OF WHOLE MILK

	Whole milk used for—				
Year	*Factory butter(a)*	*Non-processed cheese(a)*	*Processed milk products*	*Other purposes(a)(b)*	*Total whole milk*
	QUANTITY (million litres)				
1973–74	3,624	889	535	1,670	6,718
1974–75	3,345	936	627	1,589	6,497
1975–76	3,026	1,057	631	1,534	6,248
1976–77	2,447	991	734	1,601	5,773
1977–78	1,968	985	927	1,559	5,439
1978–79p	1,837	1,196	992	1,630	5,656
	GROSS VALUE ($ million)				
1973–74	184.5	47.0	32.7	196.3	(c) 467.6
1974–75	191.1	61.6	39.0	217.7	(c) 518.5
1975–76	151.6	57.1	34.1	238.2	(c) 490.3
1976–77	(d)128.1	(d)54.3	(d)38.8	275.2	520.9
1977–78	(d)120.7	(d)62.7	(d)49.3	290.2	548.9
1978–79p	(d)156.9	(d)97.4	(d)78.3	336.3	668.9

(*a*) Prior to 1963–64 milk used to produce farm butter and cheese was included with factory production; subsequently milk used in farm production is included with human consumption and other purposes. (*b*) Principally fluid milk for domestic purposes. (*c*) Includes data not available for publication in the components. (*d*) Data are incomplete. Tasmanian data are shown in *Total Whole Milk*.

MILK PRODUCTION AND UTILISATION : AUSTRALIA
1951-52 TO 1978-79

MILLION LITRES



Exports

The United Kingdom has, in the past, been Australia's main butter market, but this market was effectively closed when Britain joined the EEC. However, a recent 3,000 tonne cheese import quota has been obtained from the Community, and a further import quota for 4,000 tonnes of cheese from the United States of America. Whilst in the past there was some export diversification from the U.K. in the form of butteroil exports to South East Asia, together with the development of a substantial trade in skim milk powder, declining Australian butter production and the consequent reduction in skim milk powder manufacture has recently caused supply problems to Asia Dairy Industries (Hong Kong) Ltd. associated joint venture recombining plants. The export trade has become increasingly concentrated in cheese, wherein Japan and the Middle East have replaced the U.K. as the major export outlet.

PRODUCTION AND TRADE OF BUTTER AND CHEESE

Year	*Butter*			*Cheese*			
		Exports (a)			*Exports (b)*		
	Factory production	*Quantity*	*Value f.o.b.*	*Factory production (c)*	*Quantity*	*Value f.o.b.*	*Imports*
	'000 tonnes	'000 tonnes	$m	'000 tonnes	'000 tonnes	$m	'000 tonnes
1973–74	175.5	37.9	27.2	95.8	38.0	28.9	7.4
1974–75	161.3	18.9	19.5	98.6	34.2	34.6	8.0
1975–76	147.6	52.5	42.2	112.6	31.5	35.2	9.7
1976–77	118.2	22.6	26.0	103.5	52.5	56.2	10.6
1977–78	111.7	17.5	22.7	115.6	44.1	55.6	11.3
1978–79p	101.3	25.7	35.5	141.3	51.5	69.0	12.1

(*a*) Excludes ghee and butter concentrates. (*b*) Includes processed cheese exports. (*c*) Factory production is shown only for non-processed cheese.

Apparent consumption

CONSUMPTION OF MILK, BUTTER, CHEESE AND MARGARINE

Year	*Apparent consumption Total*			*Apparent consumption Per capita per year*				
							Margarine	
	Fluid whole milk	*Butter*	*Cheese*	*Fluid whole milk*	*Butter*	*Cheese*	*Table*	*Other*
	mil. litres	'000 tonnes	'000 tonnes	litres	kg	kg	kg	kg
1973–74	1,544	104	71	114.5	7.7	5.3	1.7	4.0
1974–75	1,460	98	71	106.6	7.2	5.2	2.2	3.8
1975–76	1,401	93	79	101.1	6.8	5.7	3.1	3.9
1976–77	1,467	81	74	104.8	5.8	5.3	4.7	3.5
1977–78	1,450	71	94	102.4	5.0	6.6	5.7	2.9
1978–79p	1,486	61	91	103.7	4.2	6.3	6.2	3.0

Wholesale prices of butter and cheese in Australia

These prices, in the past, were set by the Australian Dairy Industry Council (ADIC) in association with manufacturers. Following the inception of the prescribed products levy arrangements under the *Dairy Industry Stabilization Act* 1977 and associated Levy Acts, the Prices Justification Tribunal has adopted the practice of exempting manufacturers of prescribed products from notification of increases in the domestic bulk wholesale prices upon the Corporation's advice to the Tribunal of the Minister for Primary Industry's approval of upward variations in assessed export prices and product levies.

The Australian Dairy Industry Conference

From August 1977, the Australian Dairy Industry Conference replaced the ADIC. The 34 member Conference comprises 17 members from the Australian Dairy Farmers' Federation, 15 manufacturing members from the Australian Dairy Products Federation, one member from the Australian Dairy Traders' Federation and one member from the Market Milk Federation.

For further details on the dairying industry *see* the publications, *Dairying and Dairy Products, Australia* (7209.0), *Milk Statistics, Australia* monthly (7208.0), *Production Bulletin No. 3, Food, Drink and Tobacco, Australia* (8359.0), and *Production of Non-Processed Cheese, Australia* (8307.0). Year Book No. 61, pages 854–857 contains a detailed description of the various bounties, stabilisation funds, schemes and programs that regulate the industry.

Beekeeping

Although practised as a separate industry, beekeeping is also carried on in conjunction with other branches of farming. A feature of the industry is that it consists mainly of apiarists operating on a large scale with mobile equipment. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to provide a continuous supply of nectar from suitable flora.

NOTE: Statistics in the following table relate, for the years since 1974–75, to apiarists with forty or more hives. Information to 1973–74 covered the operations of apiarists with five or more hives (six or more in New South Wales).

BEEKEEPING STATISTICS

Year	Number of apiarists	Number of beehives		Honey produced			Beeswax produced	
		Productive	*Total*	*Quantity*	*Average production per productive hive*	*Gross value*	*Quantity*	*Gross value*
		'000	'000	'000 tonnes	kg	$'000	tonnes	$'000
1972–73	5,926	395	528	18.1	45.7	8,130	261	294
1973–74(*a*)	5,779	409	544	21.2	51.8	11,768	324	525
1974–75	2,266	381	491	20.6	54.2	9,292	326	515
1975–76	2,285	377	497	21.4	57.2	10,453	368	633
1976–77	2,274	374	493	14.9	42.9	8,405	275	777
1977–78	2,151	363	479	18.6	51.2	13,480	329	1,096

(*a*) *See* Note above.

EXPORTS OF HONEY AND BEESWAX

Year	Honey		Beeswax	
	Quantity	*Value f.o.b.*	*Quantity*	*Value f.o.b.*
	'000 tonnes	$'000	'000 tonnes	$'000
1972–73	8.0	4,722	41	56
1973–74	4.7	3,505	234	356
1974–75	9.6	5,783	243	459
1975–76	11.5	6,330	217	399
1976–77	6.6	4,602	255	694
1977–78	4.5	4,462	145	542

Honey levy

Under the *Honey Levy Acts* 1962, a levy is imposed on domestic sales of honey for the purpose of financing the operations of the Australian Honey Board. The current rate of levy, which became effective on 1 December 1978, is 1.8 cents per kg; it can be increased by regulation to a maximum of 2.2 cents per kg.

In April 1974, an export charge was introduced under the *Honey Export Charge Act* 1973 to provide necessary additional finance for the Honey Board to regulate Australian honey exports and undertake associated promotional and research activities. The current rate of charge which became effective on 1 December 1978, is 0.5 cents per kg; it can be increased by regulation to a maximum of 1 cent per kg.

For further information, *see* the publication *Beekeeping, Australia* (7214.0).

Eggs and egg products

EGGS AND EGG PRODUCTION: SUPPLY AND UTILISATION

(Eggs in shell weight)

	Production(a)				*Apparent consumption in Australia as human food*	
Year	*Quantity*	*Gross value*	*Exports*	*Processed food(b)*	*Total*	*Per head per year*
	'000 tonnes	$ million	'000 tonnes	'000 tonnes	'000 tonnes	kg
1972–73	193.2	117.4	45.4	35.9	162.1	12.4
1973–74	189.0	147.8	23.0	31.5	165.0	12.4
1974–75	197.7	171.7	21.5	38.4	170.4	12.4
1975–76	196.0	178.5	29.7	32.5	172.6	12.5
1976–77	192.7	182.2	21.5	28.3	173.5	12.4
1977–78p	200.7	195.0	20.4	34.4	176.0	12.4

(*a*) Includes estimates for uncontrolled commercial production and production by self-suppliers. (*b*) Includes egg products as pulp and powder; also includes wastage.

Commercial egg production in Australia, by virtue of hen quota (licencing) legislation introduced by all States to more closely align production with domestic demand, is now trending to stabilise at economic levels. A noticeable effect of hen quotas has been overall improvement of production efficiency and increased capacity of the industry to sustain higher producer net returns as crippling production surpluses diminish.

Egg Consumption

In the absence of data for eggs produced in areas outside the control of the State Egg Boards and by hens kept in backyards throughout the country, egg consumption figures are uncertain. In 1978–79, most States were however recording increased commercial sales indicative of an increase in consumption and thought to be at least partially influenced by higher red meat price levels.

Exports

Egg exports from Australia are predominantly in egg pulp form with Japan the principal market. World markets continue to be over supplied with eggs and all forms of egg products are subject to severe price competition virtually on a year round basis. High and increasing freight costs from Australia are a barrier to trade with the more distant markets such as the Arabian Gulf and Middle East and emphasise the importance of closer markets in the Asian and Pacific areas. Trends towards self-sufficiency in egg production in all areas do not enhance export prospects.

EXPORTS OF EGGS AND EGG PRODUCTS

			Eggs not in shell			
	Eggs in shell		*Liquid form*		*Dry*	
Year	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*	*Quantity*	*Value f.o.b.*
	'000 doz	$'000	tonnes	$'000	tonnes	$'000
1973–74	2,203	872	12,974	5,521	401	654
1974–75	2,343	951	11,627	7,229	96	121
1975–76	2,684	1,033	15,858	9,412	58	96
1976–77	1,293	655	12,693	9,151	35	96
1977–78	1,249	655	9,739	10,272	56	158
1978–79p	962	514	8,200	9,790	99	374

For further details on eggs and egg products *see* the publications *Chicken Hatchings and Poultry Slaughterings, Australia* (7207.0) and *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

Rural improvements

Fertilisers

The bulk of Australia's requirements of nitrogenous and phosphatic fertilisers is supplied by the domestic industry. Requirements of potassic fertilisers are primarily imported. Production of nitrogenous fertilisers is based on both Australian natural and refinery gas and imported naphtha feedstocks. Production of phosphatic fertilisers is currently dependent upon imported phosphate rock, but domestic rock deposits are available for development in the future.

The chief sources of Australia's supplies of natural phosphate have been Nauru, Christmas Island and Ocean Island. Sodium Nitrate is obtained chiefly from Chile and the U.S.A.

As a result of widespread phosphate deficiency in Australian soils, phosphatic fertilisers account for a large proportion of usage both on crops and pastures.

Principal crops and pastures fertilised, etc.

Information regarding the principal crop and pasture areas treated with artificial fertilisers, and the quantity of artificial fertilisers (superphosphate, nitrates, etc.) used, is given in the following tables.

ARTIFICIAL FERTILISERS: AREA AND USAGE

Year	*Area fertilised*	*Super-phosphate used*	*Nitrogenous fertilisers used*	*Other fertilisers used*
	'000 ha	'000 tonnes	'000 tonnes	'000 tonnes
1972–73	26,076	3,491	276	392
1973–74	29,529	4,110	340	360
1974–75	24,858	3,349	335	360
1975–76	18,975	2,216	353	296
1976–77	21,266	2,303	326	428
1977–78	24,324	2,538	490	383

Since the Second World War there has been a great expansion of the area of sown pasture accompanied by an increased use of fertilisers. New pasture varieties (including tropical species) have been developed, and nutrient or trace element deficiencies in soils identified.

Up to 90 per cent of all artificial fertilisers used in Australia are made up of superphosphate, over half of which is used on pastures, mainly in areas with moderate to good rainfall. Large quantities are also used on cereal crops. The increased use of fertilisers, combined with improved grass and crop species, and more scientific methods of crop and pasture rotation, has probably succeeded in reversing the declining trend in the fertility of Australian soils, at least in the more developed regions.

SUPERPHOSPHATE USAGE

	Selected crops and pastures					
Year	*Sown and native pastures*	*Lucerne*	*Wheat*	*Other cereals*	*Sugar cane*	*Total*
			AREA FERTILISED ('000 hectares)			
1972–73	15,256	497	6,071	3,535	240	26,076
1973–74	17,994	495	7,147	3,258	236	29,529
1974–75	14,484	639	6,358	2,678	248	24,858
1975–76	8,568	346	6,276	3,092	267	18,975
1976–77	10,006	447	6,745	3,366	285	21,266
1977–78	11,324	469	7,827	3,960	289	24,324
			SUPERPHOSPHATE USED ('000 tonnes)			
1972–73	2,220	80	677	408	20	3,491
1973–74	2,709	89	804	402	21	4,110
1974–75	2,070	112	719	326	21	3,349
1975–76	1,027	53	665	354	26	2,216
1976–77	1,166	63	615	351	27	2,303
1977–78	1,335	67	635	392	25	2,538

PRODUCTION AND IMPORTS OF FERTILISERS

Item		*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79p*
PRODUCTION							
Superphosphate (*a*)	'000 tonnes	5,288	3,309	2,185	3,137	3,388	3,646
Mixed chemical fertilisers (including complete manures) . . .	'000 tonnes	1,503	1,049	708	870	n.y.a.	n.y.a.
Leaf and foliage type fertilisers (including dry and liquid form) .	tonnes	300	368	1,129	n.p.	n.y.a.	n.y.a.
Manures (without added chemical fertilisers) (*b*)	tonnes	18,864	9,554	20,344	17,132	n.y.a.	n.y.a.
IMPORTS							
Crude fertilisers (mainly natural phosphate)	'000 tonnes	3,113	2,651	1,464	1,330	1,612	2,381
	Value $m	35.5	74.6	18.4	42.5	55.6	83.4
Manufactured, mineral or chemical fertilisers—							
Nitrogenous (*c*)	'000 tonnes	7	12	6	22	23	29
	Value $m	0.5	2.5	0.7	2.6	2.6	4.2
Potassic (*d*)	'000 tonnes	183	211	110	165	162	169
	Value $m	5.2	9.5	7.3	9.6	9.1	9.8
Other (*e*)	'000 tonnes	7	5	18	71	35	72
	Value $m	0.9	1.1	1.3	8.9	5.1	10.3

(*a*) Includes double and triple superphosphate and ammonium phosphate in terms of single superphosphate. (*b*) Blood, bone and/or offal, and other material. (*c*) Mainly ammonium nitrate, ammonium sulphate, calcium ammonium nitrate, sodium nitrate and urea containing in the dry state more than 45 per cent by weight of nitrogen. (*d*) Mainly potassium chloride and potassium sulphate. (*e*) Includes phosphatic fertilisers and compounds of the main elements nitrogen, phosphorus and potassium (N.P.K. complete fertilisers).

Note: Production data are derived from the Annual Manufacturing Census and the recorded monthly production.

Aerial agriculture

Extensive use is made of aircraft for top-dressing and seeding, for spraying and dusting of crops and pastures and for pest and vermin extermination. The statistics below have been compiled from returns collected from the operators of aircraft engaged in aerial agriculture. The collection was commenced in 1956 by the then Department of Civil Aviation and is now the responsibility of the Department of Transport.

AERIAL AGRICULTURE

	Area ('000 hectares)			*Materials used ('000 tonnes)*		
Year ended 31 March	*Top dressed and seeded*	*Sprayed*	*Total(a)*	*Super-phosphate*	*Seed*	*Total flying time '000 hours*
1974	4,870	1,870	6,857	546.0	2.5	93.3
1975	3,378	1,544	5,080	473.8	4.8	89.2
1976	1,164	2,059	3,314	105.2	3.5	53.8
1977	1,381	1,624	3,064	151.5	2.5	49.6
1978	2,403	1,782	4,260	287.2	3.8	69.5
1979	3,205	2,981	6,243	374.2	5.9	100.6

(*a*) Includes other types of treatment (rabbit baiting, etc.).

Irrigation on rural holdings

Irrigation is one of the factors by which rural industry is further developed. The variability in stream flow and annual rainfall means that successful irrigation of crops and pastures is dependent on storage. Ground water supplies are also used in areas where the quantity is adequate and the quality is suitable. The area of land irrigated (nearly 1.5 million hectares in 1975–76) forms about 10 per cent of the total area under crops and only 0.3 per cent of the total area of rural holdings.

CROPS AND PASTURES: AREA IRRIGATED(*a*)

('000 hectares)

Year	Sown and native pastures (including lucerne)	Cereals for all purposes	Sugar cane	Vegetables for human consumption	Fruit	Grapevines	All other	Total	Percent of total crops
1972–73	1,099.7	250.8	70.9	64.9	59.5	44.9	94.9	1,685.5	11.8
1973–74	983.5	177.4	66.2	59.2	54.6	44.3	85.4	1,470.6	9.7
1974–75	955.1	183.7	74.0	68.9	56.1	44.9	86.3	1,469.0	10.6
1975–76	920.4	252.7	73.3	63.4	52.9	45.6	66.6	1,474.9	10.1

(*a*) Irrigation statistics were not collected in 1976–77 or 1977–78.

Sources of irrigation water

Most irrigation areas in Australia are supplied with water by a State authority, although there are also private schemes operating. The major reasons for expansion of the area irrigated have been public investment in the building of dams and major reservoirs and private investment by farmers in irrigation plant and earthworks. Sources of irrigation water are collected irregularly. The data may differ slightly from the previous table.

SOURCES OF IRRIGATION WATER: 1971–72 AND 1974–75

('000 hectares)

State	Surface water					
		Other(a)				
	State irrigation schemes	Direct from rivers creeks, lakes, etc.	From farm dams	Underground water supply(b)	Town or country reticulated water supply	Total
			1971–72			
New South Wales . .	436.3	239.9	12.4	58.0	1.2	747.8
Victoria	500.8	67.0	18.8	14.2	3.3	604.2
Queensland	21.7	43.6	12.5	105.4	0.3	183.6
South Australia . .	21.7	18.7	2.4	32.7	0.6	76.1
Western Australia . .	18.0	3.7	5.1	4.3	0.1	31.3
Tasmania	n.a.	9.7	9.8	0.2	0.1	19.9
Australia	998.6	382.5	61.1	214.9	5.7	1,662.7
			1974–75			
New South Wales . .	264.1	226.3	12.5	33.9	1.6	538.4
Victoria	421.9	68.1	54.1	30.6	18.5	593.1
Queensland	25.1	48.4	14.2	109.3	0.1	197.1
South Australia . .	20.6	18.9	3.0	35.6	0.8	78.9
Western Australia . .	12.9	4.2	5.9	4.5	0.6	28.1
Tasmania	0.8	9.9	12.3	0.4	0.2	23.7
Australia	745.4	375.9	101.9	214.4	20.1	1,457.8

(*a*) Includes private group schemes. (*b*) E.g. bore, well, spear.

Agricultural machinery on rural holdings

Statistics on the type of agricultural machinery on rural holdings were published in early issues of the Year Book. Additional information was published in the publication *Rural Land Use, Improvements, Agricultural Machinery and Labour, Australia*, 1974–75 (7103.0). Details of the sales of new tractors for agricultural purposes are given in the quarterly publication *Receipts, Sales and Stocks of New Tractors, Australia* (8507.0).

Rural employment

Employment on rural holdings

Prior to 1976 data on employment collected at the annual Agricultural Census differentiated between permanent full-time employees and temporary employees. Full-time workers excluded casual or seasonal workers and other persons working only part-time. Casual or seasonal workers were shown as temporary employees.

In the past it has been difficult to maintain comparability of employment on rural establishments from year to year because of the changing number of lessees and share farmers and because of the tendency of many farmers to include part-time family helpers as full-time workers in their returns. Since the second World War there has been a decline in the percentage of people living in rural areas due, in part, to a rising standard of living accompanying the introduction of new techniques and increasing use of capital equipment, fuel, fertilisers, and pesticides. As a result, a smaller rural labour force is now producing a larger output of farm products.

RURAL EMPLOYMENT(*a*)

(*Source:* annual Agricultural Census)

	Males, permanent ('000)				*Persons working more than 15 hours a week ('000)*		
31 March	*Owners, lessees or share farmers*	*Relatives, etc.*	*Employees (b)*	*Total*	*Males*	*Females*	*Persons*
1972	194.9	8.8	65.3	269.0	n.a.	n.a.	n.a.
1973	189.3	7.8	62.6	259.6	n.a.	n.a.	n.a.
1974	185.9	7.3	62.2	255.4	n.a.	n.a.	n.a.
1975	181.6	7.0	55.0	243.6	n.a.	n.a.	n.a.
1976	n.a.	n.a.	n.a.	n.a.	256.0	80.3	336.3

(*a*) Employment statistics have not been collected since 1975–76.

EMPLOYED PERSONS IN AGRICULTURE AND SERVICES TO AGRICULTURE

Month of August	*Males*	*Married women*	*All females*	*Persons*
1974	312.2	58.4	70.9	383.1
1975	303.8	62.0	76.5	380.3
1976	287.6	71.0	82.9	370.5
1977	294.2	73.6	89.1	383.3
1978	274.9	63.7	78.1	353.0
1979	295.4	69.1	80.3	375.7

Source: Monthly population survey conducted by the ABS throughout Australia. For further details *see The Labour Force, Australia* (6203.0).

Regulation of Australian agricultural industries

Year Book No. 61, pages 837–57, contains a summary of the means by which agricultural industries are assisted and regulated. It is not intended as a comprehensive statement of all the consultative and legislative assistance and control measures that exist, but rather as a description of the way in which these processes affect the crops, livestock and livestock products referred to earlier in this chapter.

Many of the processes are also referred to in this Year Book in the relevant section of the chapter. For details on the operations of the Australian Agricultural Council, the Rural Reconstruction Scheme and the agricultural extension services provided by the States' Departments of Agriculture *see* Year Book No. 61, pages 837–839.

CHAPTER 14

FORESTRY AND FISHERIES

CHAPTER 14

FORESTRY AND FISHERIES

FORESTRY

Source of statistics

Statistics relating to forested areas have been compiled by the Forestry Branch, Department of Primary Industry from data supplied by State and Territory Forest Services and by private forestry companies. Statistics of timber and by-products have been compiled from the annual factory collections undertaken by the Statisticians in the several States. Figures of production of gums, resins and tanning barks have been provided by the State forestry authorities. Data of imports and exports of forest products and timber products have been compiled by the Australian Statistician as part of the statistics of overseas trade. The figures shown relate, in general, to years ended 30 June.

Objects of forestry

The main object of forestry authorities is to manage the forests of the country in a manner that will provide maximum benefits, both direct and indirect, for the community. The authorities aim to promote the multiple use concept in management under which forests remain in perpetuity as sources of valuable raw material, areas of natural beauty, sanctuaries for fauna and flora, and areas for scientific investigation and watershed protection. The provision of special protected areas such as forest parks for recreational use and for the conservation of plants and animals is an objective. Forestry also aims at improving existing forests and woodlands by properly controlled harvesting, by protection from such destructive agencies as fire, insects and diseases, and by inducing regeneration. The provision of a partial tree cover on denuded lands where this cover is necessary for protective purposes, and a complete cover when the land is more suited under forest than under other land use, are further aims of forestry.

General account of forests and timbers

The area of land in Australia suitable for the production of commercial timber as the principal objective is very small in comparison with the size of the continent. Productive or potentially productive forests cover 43 million hectares, and of these 99 per cent are natural forests. Thirty-five million hectares of the natural forests are dominated by eucalypts. For a description of the types of timber grown in Australia *see* Year Book No. 61, Chapter 24.

Extent of forested areas

The total area of forest, 43.8 million hectares, is based on a definition of forest which includes plantations, native forest with an existing or potential mature height of 20 metres or more, and cypress pine forest in commercial use regardless of height. The following tables show classifications of total forest area in Australia by forest type and by ownership. Because areas at State level are subject to frequent change, totals have been rounded.

FOREST AREAS CLASSIFIED BY FOREST TYPE, 30 JUNE 1978

(*Source:* Forestry Branch, Department of Primary Industry)

('000 hectares)

Forest type	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Rainforest	300	—	1,070	—	3	460	40	—	1,873
Eucalypt—									
Productivity—Class I	1,620	650	210	—	180	460	—	—	3,120
Class II	4,450	4,750	1,380	—	2,910	1,800	—	51	15,341
Class III	8,150	630	3,340	10	70	—	—	—	12,200
Tropical eucalypt and paperbark	—	—	4,080	—	7	—	2,450	—	6,537
Cypress pine	1,600	3	1,680	—	2	—	780	—	4,065
Plantations	177	164	142	92	63	43	4	14	699
Total forest area	**16,297**	**6,197**	**11,902**	**102**	**3,235**	**2,763**	**3,274**	**65**	**43,835**

FOREST AREAS CLASSIFIED BY OWNERSHIP, 30 JUNE 1978

(*Source:* Forestry Branch, Department of Primary Industry)

('000 hectares)

Ownership	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
State forestry(*a*)	3,600	2,300	4,100	76	2,000	1,220	310	14	13,620
Other public(*b*)	7,000	3,100	5,800	10	470	360	2,640	50	19,430
National parks	800	200	600	–	150	180	320	1	2,250
Private(*c*)	4,900	600	1,400	14	610	1,000	–	–	8,525
Total(*d*)	**16,300**	**6,200**	**11,900**	**100**	**3,230**	**2,760**	**3,270**	**65**	**43,825**

(*a*) Publicly owned land, permanently reserved or dedicated primarily to timber production. (*b*) Publicly owned land, vacant or occupied under lease; not specifically secured for permanent timber production, but on which control of timber rests with the Crown. (*c*) Privately owned land, and leasehold land, where the Crown has no control over timber rights. (*d*) State totals may not correspond to those in the preceding table due to rounding.

Plantations

The indigenous forest of Australia does not contain adequate supplies of coniferous timber, and Australia's requirements have had to be met largely by imports. As a result of the planned policy of the forest services and of several private commercial organisations, the area of coniferous plantations, mainly of exotic species, is steadily increasing. It was natural that this aspect of forestry should receive earliest attention in South Australia, as this is the State most poorly endowed with natural forest. South Australia now has a large area of planted conifers, and for some years has been obtaining considerable quantities of timber from these plantations. Production is also increasing in other States, and the thinnings from their plantations are already supplying a significant volume of timber. At 31 March 1978, the total area of coniferous plantations was about 655,000 hectares.

The total production of roundwood from Australia's coniferous plantations is now about 3.0 million cubic metres per annum and is expected to increase substantially during the next decade.

A special article giving a detailed account of the history and development of coniferous plantations and of the characteristics of individual species is included in Year Book No. 59, page 880.

Broadleaved plantations (mainly *Eucalyptus* and *Populus spp*) comprise about 44,000 hectares, a much smaller area than for the coniferous plantations. Plantations of ash eucalypts (including *E. delegatensis* and *E. regnans*) for pulpwood in Victoria, and poplar plantations in the Eastern States make up a substantial proportion of the total broadleaved plantation area. The following tables show total area of plantations in Australia classified by species and by ownership.

PLANTATION AREAS CLASSIFIED BY SPECIES BY PUBLIC OWNERSHIP(*a*), 31 MARCH 1978

(*Source:* Forestry Branch, Department of Primary Industry)

(Hectares(*b*))

Species group	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Coniferous—									
Pinus radiata	114,600	75,200	2,500	69,800	21,200	32,200	–	12,800	328,300
Pinus pinaster	–	–	–	6,000	22,700	–	–	–	28,700
Pinus elliottii	3,900	–	54,700	–	–	–	–	–	58,500
Pinus caribaea	1,000	–	10,500	–	–	–	1,400	–	12,900
Araucaria spp.	1,600	–	38,500	–	–	–	–	–	40,100
Other coniferous spp.	4,600	4,200	4,800	600	200	–	2,500	800	17,800
Total coniferous	*125,700*	*79,400*	*111,000*	*76,400*	*44,100*	*32,200*	*3,900*	*13,600*	*486,300*
Broadleaved—									
Eucalyptus species	8,000	7,400	2,000	900	8,300	–	–	–	26,700
Populus spp.	–	–	–	–	–	–	–	–	–
Other broadleaved spp.	–	200	–	–	–	–	100	–	300
Total broadleaved	*8,000*	*7,600*	*2,000*	*900*	*8,300*	–	*100*	–	*27,000*
Total	**133,700**	**87,000**	**113,000**	**77,300**	**52,400**	**32,200**	**4,000**	**13,600**	**513,200**

(*a*) Includes both State forestry and other public. (*b*) Rounded to nearest 100 hectares.

PLANTATION AREAS CLASSIFIED BY SPECIES BY PRIVATE OWNERSHIP, 31 MARCH 1978

(*Source:* Forestry Branch, Department of Primary Industry)

(Hectares (*a*))

Species group	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Coniferous—									
Pinus radiata	26,200	70,200	–	14,800	10,600	9,600	–	–	131,400
Pinus pinaster	–	–	–	–	–	–	–	–	–
Pinus elliottii	–	–	24,900	–	–	–	–	–	24,900
Pinus caribaea	–	–	–	–	–	–	–	–	–
Araucaria spp.	–	–	–	–	–	–	–	–	–
Other coniferous spp.	(b) 8,000	1,300	2,800	–	300	–	–	–	12,400
Total coniferous	*34,200*	*71,500*	*27,700*	*14,800*	*10,900*	*9,600*	–	–	*168,700*
Broadleaved—									
Eucalyptus species	6,900	5,400	1,200	–	–	1,100	–	–	14,600
Populus spp.	2,100	500	–	–	–	–	–	–	2,600
Other broadleaved spp.	–	–	–	–	–	–	–	–	–
Total broadleaved	*9,000*	*5,900*	*1,200*	–	–	*1,100*	–	–	*17,200*
Total	**43,200**	**77,400**	**28,900**	**14,800**	**10,900**	**10,700**	–	–	**185,900**

(*a*) Rounded to nearest 100 hectares. (*b*) Includes pinus elliottii.

Australian Government assistance

Softwood Forestry Development

Since 1966 the Commonwealth Government has provided loans to the States for the planting and or maintenance of softwood forests, with a view to making Australia self-sufficient in forest products.

Under the *Softwood Forestry Agreements Act* 1978 the Commonwealth Government provides assistance to the States during the five year period commencing 1977–78, to cover the cost of maintaining softwood forestry plantations established under the *Softwood Forestry Agreement Acts* 1967, 1972 and 1976. The assistance for the maintenance program is provided by way of loans repayable over 20 years with repayments commencing 15 years after the date of each advance. Depending on State preferences, interest is either capitalised over the deferment period, or paid as it falls due. Because of delays in finalising agreements with the States, no payments were made during 1977–78. By 30 June 1979 agreements had been concluded with all States and payments made during 1978–79 totalled $7.65 million of which $3.5 million was in respect of 1977–78 entitlements. It is estimated that payments during 1979–80 will amount to $6.0 million.

Other Forestry

The Commonwealth Government has agreed to provide financial assistance to Tasmania towards the cost of certain silviculture projects undertaken during the five year period commencing 1978–79. No payments were made in 1978–79 and it is anticipated that assistance, by way of loans on a dollar for dollar matching basis will commence during 1979–80 with a payment of $272,000. The loans are to be repayable over 40 years commencing 20 years after each advance is made. During the 20 years in which repayments are deferred, interest will be capitalised.

The Commonwealth Government has also decided to provide a further $100,000 per annum for the final four years of the agreement for the purchase of marginal farm land and of eucalypt plantation establishment thereon.

Forest administration and research

Forestry Branch, Department of Primary Industry

Following the transfer of research functions of the Forestry and Timber Bureau to the Commonwealth Scientific and Industrial Research Organization, Division of Forest Research in 1975, the remaining functions were subjected to a reorganization which led to the establishment of a Forestry Branch within the Department of Primary Industry. The functions of the Forestry Branch include the formulation of policies on aspects of forestry which concern the Commonwealth Government, to collate and publish statistics relevant to forestry and to the end use of the produce of forests, to service the Australian Forestry Council and attendant bodies and to deal with international organizations on matters predominantly of a forestry nature.

Commonwealth Scientific and Industrial Research Organization (CSIRO)

The Division of Forest Research in the Institute of Biological Resources conducts research on harvesting, forest biology (genetics, seeds, taxonomy, ecology, physiology), silviculture (nutrition and nutrient cycling, hydrology), protection (pathology, fire behaviour and effects, entomology) and forest assessment. The Division maintains close liaison with relevant State authorities and, and on occasion, collaborates with private companies. It operates seven regional stations in the States and the Northern Territory.

Within the Institute of Biological Resources (Divisions of Plant Industry, Entomology and Wildlife Research) and Earth Resources (Divisions of Soils, Land Resources Management and Land Use Research) research is undertaken on forestry problems relevant to the disciplines pursued in these Divisions.

Within the Institute of Industrial Technology, the Divisions of Building Research, Chemical Technology and Mechanical Engineering carry out a wide range of investigations relating to tree harvesting, the properties of wood, and the uses of wood and wood products. Research on processing logs and timber, solid and composite wood products, timber engineering and the applications of wood in building is undertaken by the Division of Building Research. The research programs of the Division of Chemical Technology are directed towards developing ways whereby Australia's forest resources can be more effectively utilised. The programs include the technology fibre separation cellulosic composite materials, lignin technology the assessment and development of cellulosic resources, fibre properties and problems relating to the pulp and paper industry. Technology for the production of liquid fuels from wood and other plant materials is also being investigated. The Division of Mechanical Engineering undertakes research leading to the design and development of machines for tree harvesting.

The Divisions provide assistance to individuals and industry, provide training and experience for overseas technologists and maintain co-operative aid projects with developing countries.

Forestry in the Territories

The management of forests in the Australian Capital Territory is the responsibility of the Forests Section of the Department of the Capital Territory. Forests in the Northern Territory are under the control of the Northern Territory Parks and Wildlife Commission.

Forestry in the States

The objectives of the State Forest Services are primarily the development of permanent forest reserves in each State and to manage these reserves on a multiple use basis. These uses include timber production, provision of minor forest products, grazing, protection of native flora and fauna, recreation and watershed protection. The powers and functions of the State forestry authorities are laid down under forestry Acts and Regulations, and are limited to public lands, in particular to lands set aside for forestry purposes. The functions include the introduction and implementation of proper measures for management and protection of forest land, harvesting, conversion and marketing of forest products. All State forest services are actively engaged in research programs aimed at improving the growth and yield of forest products and in some cases (New South Wales and Queensland) research aimed at improving the utilization of forest products. All State forestry authorities publish annual reports.

Public land permanently reserved or dedicated primarily for timber production in Australia amounts to 13.6 million hectares. State forestry authorities also have control over the timber on approximately 20 million hectares of crown land not specifically reserved for permanent timber production.

Private forestry

Privately owned land carrying productive or potentially productive native forests constitute an important part of Australia's forest resource. However, with the exception of forested land owned or managed by industrial forestry companies these forests are largely unmanaged for timber production. The area of privately owned coniferous plantations continues to increase. The activities of the industrial forestry companies predominate but the small private tree plantation holdings play an important role in the total supply of timber from these plantations.

Government assisted loan schemes for the establishment of private woodlots exist in New South Wales and Victoria. In Tasmania, a new Division of Private Forestry has been established within the State Forestry Commission with the objective of encouraging private forestry, other State Forest Services provide advice and suitable planting stock for private landowners interested in forestry.

The Australian Forest Development Institute is an active association of private forest growers with chapters covering all States of the Commonwealth.

Forestry education

The Australian National University's (ANU) Department of Forestry in Canberra and the School of Forestry of the University of Melbourne offer undergraduate courses leading to a Bachelor of Science degree in forestry. Universities in all States have facilities for post-graduate studies for forestry graduates. Foresters for the Forests Commission of Victoria are trained at a departmental Forestry School at Creswick, Victoria. Some of the Creswick graduates are sent by the Forest Commission of Victoria to the University of Melbourne for further training. States other than Victoria offer traineeships tenable at the ANU to students selected for university training in forestry. These traineeships support the students and meet their expenses throughout the four year university course. Successful graduates are appointed as forestry officers in the State Forest Services. A limited number of post-graduate forestry scholarships are offered by the Commonwealth Government.

The Australian Forestry Council

The Australian Forestry Council comprises the Ministers responsible for forestry in the six State Governments and the Commonwealth Government.

The Council is intended to provide the means for the mutual exchange between the State and Commonwealth Governments of information and views on forestry. It co-ordinates research into problems affecting the establishment, development, management, and fire protection of all forests, and the utilisation of forest products. It assists in co-ordinating the work of State and Commonwealth Governments and also private enterprise in the development of Australian forestry.

The Council is supported by a Standing Committee consisting of the Assistant Secretary, Forestry Branch, Department of Primary Industry, the heads of each of the six State Forest Services, the Chief of the Division of Forest Research, CSIRO, and the Secretary of the Northern Territory Parks and Wildlife Commission.

Employment in forestry

In the following table details are shown of the number of persons employed by State forestry departments, the Department of the Capital Territory, the Northern Territory Parks and Wildlife Commission, the Forestry Branch, Department of Primary Industry in the relevant States and Territories, and the private sector of the forestry industry at 30 June 1978. The table excludes staff of forestry training establishments.

PERSONS EMPLOYED IN FORESTRY(*a*), 30 JUNE 1978

Occupational group	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Professional staff—									
Foresters	215	264	116	55	80	87	12	43	872
Others	79	63	118	39	1	55	—	32	387
Field and other technical staff	124	337	131	65	318	179	49	80	1,283
Clerical staff	380	280	277	138	96	112	8	29	1,320
Labour(*b*)	1,294	1,248	1,249	332	662	580	130	87	5,582
Extraction(*c*)	2,860	48	2,230	165	758	2,175	—	70	8,306
Total	**4,952**	**2,240**	**4,121**	**794**	**1,915**	**3,188**	**199**	**341**	**17,750**

(*a*) The Forestry and Timber Bureau has provided figures for employment within its own organisation. (*b*) Staff engaged in silvicultural forest works, etc. (*c*) Staff engaged in felling, carting, etc. Includes direct employees only.

Forest production

FOREST PRODUCTION(*a*) 1977-78

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Production of logs for sawing, peeling, slicing or pulping—										
Broadleaved—										
Eucalypt and related species	'000m³	2,194	1,387	530	3	1,438	3,534	–	–	9,086
Rain forest species . . .	„	105	–	169	–	–	–	–	–	274
Coniferous—										
Indigenous forest conifers—										
Cypress	„	554	–	176	–	–	–	–	–	3,066
Other	„		–	56	–	–	8	–	–	
Plantation grown conifers	„		669	273	935	127	116	–	152	
Total	„	**2,853**	**2,057**	**1,204**	**938**	**1,565**	**3,658**	**–**	**152**	**12,426**
Gross value of forest products(*b*)										
Logs(*c*)	$'000	51,623	35,398	25,497	19,357	19,464	54,939	1	2,816	209,096
Other forest products(*d*) . .	„	23,900	3,519	8,402	4,118	8,552	5,707	9	126	54,332
Total	„	**75,524**	**38,917**	**33,899**	**23,475**	**28,016**	**60,645**	**10**	**2,942**	**263,428**
Local value of forest products(*e*)—										
Total	„	**75,484**	**35,804**	**21,977**	**23,457**	**26,658**	**53,494**	**10**	**2,942**	**239,827**

(*a*) Excludes some production from private land thought to be relatively small, details of which are not available. (*b*) Gross production is valued at principal markets. (*c*) *See* footnote (*c*) to the table Forest Production: Australia, below. (*d*) Includes firewood, sleepers, transomes, girders, bridge timbers, mining timber, poles, piles, charcoal (forest production only), tanning bark, essential oils, eucalyptus leaves, crude rutin. (*e*) Gross production valued at place of production. *See* footnote (*b*) above.

FOREST PRODUCTION(*a*): AUSTRALIA

		1975–76	*1976–77*	*1977–78*
Production of logs for sawing, peeling, slicing or pulping—				
Broadleaved—				
Eucalypt and related species	'000 m³	8,695	9,245	9,086
Rain forest species	„	255	252	274
Coniferous—				
Indigenous forest conifers—				
Cypress	„	2,705	2,929	3,066
Other	„			
Plantation grown conifers	„			
Total	„	**11,655**	**12,426**	**12,426**
Gross value of forest products(*b*)—				
Logs(*c*)	$'000	167,891	191,246	209,096
Other forest products(*d*)	„	45,111	52,105	54,332
Total	„	**213,002**	**243,351**	**263,428**
Local value of forest products(*e*)—				
Total	„	**194,796**	**222,556**	**239,827**

(*a*) Excludes some production from private land, thought to be relatively small, details of which are not available. (*b*) *See* footnote (*b*) to the table Forest Production, 1977-78, above. (*c*) Included in this category are amounts attributable to sawmillers who carry out their own logging activities as a secondary part of their operations. As such, the values are attributable to the sawmilling industry which is part of manufacturing industry. However, the amount has been included in this table so that the overall value of forest products might be shown. (*d*) Includes firewood, sleepers, transomes, girders, bridge timbers, mining timber, poles, piles, charcoal (forest production only), tanning bark, essential oils, eucalyptus leaves, crude rutin. (*e*) Gross production valued at place of production. *See* footnote (*b*) to the table Forest Production, 1977-78 above.

Timber and timber products

The selected details shown below have been compiled from the annual census of manufacturing establishments. For further details *see* Chapter 17, Manufacturing and Internal Trade.

MANUFACTURING ESTABLISHMENTS(*a*)—SUMMARY OF OPERATIONS, 1977-78 (BASED ON 1978 EDITION OF ASIC)

1978 ASIC code(b)	*Industry description*	*Establish-ments at 30 June*	*Persons employed (c)*	*Turnover*	*Value added*	*Fixed capital expenditure less disposals*
		No.	No.	$'000	$'000	$'000
2531	Log sawmilling	774	13,095	367,290	220,974	12,703
2533	Veneers and manufactured boards of wood	74	5,935	232,827	97,589	5,825
2537	Hardboard woodchips	10	666	87,780	33,418	2,185

(*a*) All manufacturing establishments owned by multi-establishment enterprises and single establishment enterprises; with four or more persons employed. (*b*) Australian Standard Industrial Classification. (*c*) Average over whole year includes working proprietors.

TIMBER AND SELECTED TIMBER PRODUCTS PRODUCED(*a*)

Item		*1975–76*	*1976–77*	*1977–78*
Undressed sawn timber—				
Recovered from sawn logs—				
Australian grown—				
Broadleaved	'000 cu m	2,372	2,312	2,129
Coniferous	"	856	852	927
Total	"	**3,228**	**3,164**	**3,056**
Woodchips (green weight)—				
Hardwood (broad leaved)	'000 tonnes	2,603	3,623	3,668
Plywood—				
Commercial—(surface measure)	'000 sq m	5,967	6,550	7,290
(1 mm basis)	"	35,221	35,298	38,948
Waterproof—(surface measure)	"	4,643	4,097	3,985
(1 mm basis)	"	35,715	41,219	38,424
Particle board (resin bonded)	'000 cu m	460	496	522
Wood pulp—				
Chemical	tonne	162,342	182,775	189,815
Mechanical	"	392,675	416,905	424,090
Other	"			
Paper—				
Newsprint	tonne	206,228	206,590	207,621
Printings	"	46,510	55,329	69,982
Writing (incl. cartridge)	"	69,943	87,896	82,877
Wrapping	"	301,524	321,571	416,344
Blotting	"	29,381	30,286	40,031
Duplicating	"			
Other paper	"			
Tissue and sanitary papers	"	88,716	91,405	93,586
Paperboard (incl. strawboard)	"	379,942	430,711	415,290

(*a*) Excludes production of small single establishment enterprises with less than four persons employed and establishments engaged in non-manufacturing activities but which may carry on, in a minor way, some manufacturing.

Woodchips

The woodchip industry entails the procurement of wood and its mechanical reduction to chips about the size of an Australian 50 cent piece. These chips are either exported for pulping or retained for use in domestic pulping operations. In 1977–78 the production of hardwood chips in Australia amounted to 3,668,000 tonnes.

Imports

IMPORTS OF CRUDE WOOD AND TIMBER

		Quantity			Value f.o.b. ($'000)		
		1976–77	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*
Crude wood, and timber—							
Wood waste and charcoal	'000 cu m	n.a.	n.a.	n.a.	9	8	23
Wood in the rough or roughly squared	„	36	33	24	1,923	2,146	1,670
Wood shaped or simply worked—							
Railway or tramway sleepers	„	–	17	7	–	3,048	1,539
Timber, sawn lengthwise, sliced or peeled, but not further prepared, of a thickness exceeding 5 mm—							
Conifer—							
Douglas fir	„	445	336	374	47,880	42,006	54,259
Hemlock and balsam	„	73	79	88	5,626	6,332	7,636
Radiata pine	„	38	63	29	2,673	2,604	2,445
Redwood	„	8	3	5	1,675	612	1,680
Western red cedar	„	99	86	75	15,418	13,864	18,483
Other	„	24	6	16	(*a*)2,682	(*b*)878	(*c*)2,367
Total conifer	„	*687*	*573*	*587*	*75,954*	*66,296*	*86,870*
Non-conifer	„	352	236	227	(*d*)44,639	29,813	36,720
Timber (including blocks, strips, etc.), planed, tongued, grooved, rebated, etc., but not further manufactured—							
Conifer	'000 cu m	56	61	93	6,786	8,539	13,771
Non-conifer	„	71	65	66	14,033	13,921	14,923

(*a*) Includes a value of $16,000 for which no quantity has been included. (*b*) Includes a value of $3,182 for which no quantity has been included. (*c*) Includes a value of $15,000 for which no quantity has been included. (*d*) Includes a value of $180,000 for which no quantity has been included.

Exports

EXPORTS OF CRUDE WOOD AND TIMBER(*a*)

		Quantity			Value f.o.b. ($'000)		
		1976–77	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*
Crude wood, and timber—							
Wood waste and charcoal (including shell and nut charcoal)	'000m^3	n.a.	n.a.	n.a.	7	62	15
Pulpwood	„	–	–	n.a.	–	–	93,588
Wood in the rough or roughly squared	„	2	4	131	115	258	586
Wood, shaped or simply worked—							
Railway or tramway sleepers	„	30	23	34	4,204	3,797	5,569
Timber, sawn lengthwise, sliced or peeled, but not further prepared, of a thickness exceeding 5 mm—							
Conifer	„	–	9	4	42	41	303
Non-conifer—Jarrah	„	2	1	1	317	294	227
Other	„	23	28	41	4,567	4,834	7,664
Timber (including blocks, strips and friezes for parquet or wood block flooring, not assembled), planed, tongued, etc.—							
Conifer	„	–	1	–	36	493	29
Non-conifer	„	1	32	1	228	303	409

(*a*) Excludes re-exports.

FISHERIES

Collection and presentation of fisheries statistics

Source and basis of statistics

Statistics presented in this section of the chapter have been collected by a number of authorities. The various State fisheries authorities have supplied, through the Deputy Commonwealth Statisticians in the States, the details of employment, boats, equipment, and production of the general fisheries. The Fisheries Division of the Department of Primary Industry has supplied particulars of the whaling industry and pearl-shell fishery. Statistics of the processing of general fisheries products and of overseas trade in the products of fishing and whaling have been compiled by the Australian Bureau of Statistics.

Australian fisheries production statistics are generally in terms of the form in which they are taken from the water. For example, the statistics of fish production published in this chapter are in terms of 'estimated live weights' which are calculated from landed weights by using conversion factors for each species in each State. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on an 'estimated live weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis. The figures for pearl-shell and trochus-shell refer to the actual quantities of dry shell for sale and exclude the weight of the fish.

Fisheries resources and their commercial exploitation

Fish

Approximately 2,000 species of marine and freshwater fish occur in and around Australia, about forty of which support substantial commercial fisheries. Most fishing is confined to waters over the continental shelf on the populous eastern and south-eastern seaboard, including Tasmania and South Australia, and off the south-western corner of the continent. As in other countries, fisheries in Australia may be divided into estuarine fisheries, located in the tidal waters of rivers and coastal lakes, beaches and bays; pelagic fisheries, which are found in the surface layers of the open ocean; and demersal fisheries, which are located in the bottom layers of the sea. Estuarine fisheries produce considerable quantities of mullet (mainly *Mugil cephalus*), bream (*Acanthopagrus spp*) and, in northern Australia, the highly regarded giant perch (*Lates calcarifer*). Important freshwater fisheries in New South Wales, Victoria and South Australia include those for Murray cod (*Maccullochella spp*), golden perch (*Plectroplites ambiguus*), eels (*Arguilla australis*) and European carp (*Cyprinus carpio*). Trout are farmed in New South Wales, Victoria and Tasmania. Important pelagic fisheries include those for Australian 'salmon' (*Arripis trutta*), southern bluefin tuna (*Thunnus maccoyii*), snoek (*Leionura atun*), spanish mackerel (*Scomberomerus commersoni spp*), and clupeoids (*Sardinops neopilchardus* and *Engraulis australis*). Demersal fisheries include those for snapper (*Chrysophrys auratus*), whiting (*Sillaginidae*) and from tropical waters the so called 'cods' (*Epinephelus,* etc.). Trawl fisheries off New South Wales and Victoria yield species such as flathead (*Neoplatycephalus* and *Trudis spp.*), morwong (*Nemadactylus spp.*), Silver Dory (*Cyttus Australis*) and John Dory (*Zeus faber*). Expansion of trawling onto the continental slope off central New South Wales and in Western Bass Strait has established a fishery for gemfish (*Rexea solandri*). There has been a renewal of interest in the Great Australian Bight, several grounds resulting in the establishment of a joint venture operation employing three large modern freezer trawlers. The valuable fishery for edible school and gummy shark (*Galeorhinus australis* and *Mustelus antarcticus*) in south-eastern Australia declined significantly in the year 1972–73 because of the discovery of a high mercury content in large school shark, but production and prices have since risen as the fishery for gummy sharks has expanded, although production has not attained its former level. A fishery for clupeoids in the Bass Strait which supplies the raw material for a fish meal plant at Lakes Entrance, Victoria, is the only established 'industrial fishery' in Australia.

Crustaceans

Prawns (*Penaeus* and *Metapenaeus spp*) provide the most valuable fishery in Australia and are taken in estuarine, coastal and offshore waters of all States except Tasmania. The western and southern rock lobsters (*Panulirus longipes cygnus* and *Jasus novaehollandiae*), also a valuable resource, are taken on rocky reefs around the southern half of Australia. Over the last decade, important fisheries have been established in northern Australia and South Australia. Interest in deep water prawn stocks off New South Wales is growing. Bay lobsters (*Thenus spp* and *Ibacus spp*) are taken incidentally to prawn trawling operations. Crabs (*Scylla spp* and *Portunus spp*) are taken mainly in Queensland, New South Wales and Western Australia.

Molluscs (edible)

Naturally-occurring oysters are harvested in all States; in New South Wales and Queensland the Sydney rock oyster (*Crassostrea commercialis*) is cultured commercially. The introduction of the Pacific oyster (*Crassostrea gigas*) to Tasmania and South Australia has provided a limited supply in those States. Following a serious decline in catches in the scallop (*Pecten meridionalis*) fishery based on stocks in Port Phillip Bay, Victoria, new offshore beds were located in southern New South Wales, eastern Victoria, northern Tasmania and south-western Western Australia. However, substantial fluctuations in abundance have resulted in erratic production from year to year. A fishery based on the saucer scallop (*Amusium balloti*) is located off south and central Queensland and there is a small fishery for the same species in Shark Bay, Western Australia. An important abalone (*Haliotus spp*) fishery has been developed since 1964 in south-east Australia with Tasmania, Victoria and South Australia providing the bulk of the catch. There is also a small abalone fishery in South-west Australia. Mussels (*Mytilus planulatus*) are harvested in Victoria, Western Australia and New South Wales. Other small quantities of cephalopods, mainly squid, are produced in many localities.

Pearl-shell and trochus-shell

The shell of the Australian species of pearl oyster (*Pinctada maxima*) is taken from various localities in the tropical waters of Australia from Broome in Western Australia to Cairns in Queensland for the manufacture of buttons, knife handles, etc. Live pearl-shell is used for pearl culture, *Pinctada maxima* being capable of producing pearls which are the largest in the world and which command top market prices. Trochus-shell is found mainly on coral reefs off the Queensland coast, although small quantities occur in Western Australia.

Whales

Since 1955, sperm whale (*Physeter catodon*) were taken in southern waters of Western Australia. However the numbers of shore stations responsible for carrying out processing operations have decreased and late in 1978 the last of these, located at Albany, Western Australia closed.

Fisheries administration and research

The Constitution of the Commonwealth (section 51 (x)) assigns to the Commonwealth Government power to legislate for fisheries in Australian waters beyond territorial limits, the residual power in respect to waters within territorial limits (including inland waters) resting with the States. The Commonwealth Government has made similar arrangements for each of its Territories. Each State and Territory has legislation regulating fisheries in waters within its jurisdiction. Persons taking fish for sale, and their boats, are required to be licensed, and provision is made for management of the fisheries.

The Commonwealth Government laws regulating the fisheries are the *Fisheries Act* 1952, the *Continental Shelf (Living Natural Resources) Act* 1968 and the *Whaling Act* 1960. Each of these applies in accordance with the Commonwealth Government's fishery power under the Constitution.

Fisheries Act

This Act, as amended in 1978, will establish a 200 mile Australian fishing zone around Australia and its external Territories. It requires Australians and foreigners engaged in commercial fishing and boats used for such fishing to be licensed. As well as giving effect to Australia's sovereign rights over the living resources of the 200 mile zone, the Act, in accordance with International Law, imposes an obligation on Australia to manage the resources so that they are conserved for optimum utilisation by mankind, both now and in the future.

Continental Shelf (Living Natural Resources) Act

This Act implements in Australian law the sovereign rights conferred on Australia by the Convention on the Continental Shelf, Geneva, 1958 in respect of the organisms belonging to sedentary species (that is, organisms which, at the harvestable stage, either are immobile on or under the seabed, or are unable to move except in constant physical contact with the seabed or the subsoil) on the continental shelf. The continental shelf comprises the seabed and subsoil of the submarine areas adjacent to the coast but outside the territorial sea to a depth of 200 metres, or beyond that depth where the depth of the superjacent waters admits of the exploitation of the natural resources of the area. The Act requires the licensing of persons searching for and taking sedentary organisms, of boats used to search for and take sedentary organisms, and of persons employing divers, trial divers and divers' tenders in taking sedentary organisms if such activities are carried out in controlled areas of the continental shelf of Australia or the Territories for a commercial purpose. Provision is made for proclamation of sedentary organisms to which the Act applies, for the establishment of controlled areas of continental shelf in respect of specified sedentary organisms, and for the management and conservation of sedentary organisms in controlled areas (the last of these applying to all persons whether the purpose of the taking of the sedentary organism is commercial or not). The Act applies to all persons including foreigners, and to all boats including foreign boats.

Whaling Act

This Act implements in Australian law the obligations imposed on Australia by virtue of its adherence to the International Convention for the Regulation of Whaling, Washington, 1946. The Act requires the licensing of factories engaged in treating whales, and of ships (and aircraft) used for taking whales. It also provides for the management and conservation of whale stocks.

Administration

Australian fisheries are administered by the authority having jurisdiction over the waters concerned. In inland waters and in waters within territorial limits, administration is the responsibility of the State or Territory fisheries authority. In proclaimed waters, and on the continental shelf beyond territorial limits, administration is the responsibility of the Commonwealth Government which by agreement, has delegated to State fisheries authorities the necessary authorities for day-to-day administration of the Acts.

The administration of the fisheries is directed to a number of objectives of which the two most important are: conservation and management of the living resources of the Australian Fishing Zone to ensure that they are not endangered by over exploitation; and achievement of the optimum utilisation of the living resources by the Australian fishing industry and foreign interests. Although fishery resources are common property there are restrictions on trawlers greater than 40 metres in southern waters fisheries such as those for rock lobster, abalone, southern bluefin tuna and prawns in northern Australia where the number of boats are controlled, and the rock lobster fisheries where the quantities of fishing gear are controlled. The only other restrictions on the entry of boats into the Australian fishing industry are those relating to foreigners and to processing boats in the northern prawn fishery. Management measures have been introduced in several fisheries to provide controls such as minimum sizes, closed areas, closed seasons and regulation of the type of fishing gear that may be used.

The Fisheries Development Trust Account (established under the *Fishing Industry Act* 1956) and the Fishing Industry Research Trust Account (established under the *Fishing Industry Research Act* 1969) are available to support financially projects for the development and management of the fisheries and fishing industry which are consistent with the purposes of those Acts. The former was established with the proceeds of the sale of the assets of the Australian Whaling Commission and was replenished from Consolidated Revenue in 1976–77. The latter is a matching fund into which is paid each year an appropriation from Commonwealth Government Revenue equal to amounts collected from the fishing industry by the State Fisheries Authorities and expended by the States for the same purposes.

Research

The main aim of fisheries research in Australia is to provide a background of biological, technical and economic information which will provide guidance for the efficient and rational utilisation of fisheries resources. To this end much of the research already undertaken has been directed at formulating recommendations for management of various fisheries. Research work is also carried out which is expected to lead to the development of new fisheries, the expansion of under-exploited fisheries, greater economy in operations and the use of more efficient equipment and methods.

Organisations in Australia at present engaged in research into fisheries matters are:

(i) CSIRO Division of Fisheries and Oceanography, which has its headquarters and main laboratory at Cronulla, N.S.W. and regional laboratories in Perth and Brisbane (fisheries science and oceanography);

(ii) CSIRO Division of Food Research, conducts research into handling, storage, processing and transportation of fish at its laboratory in Hobart, Tasmania;

(iii) State fisheries departments (fisheries laboratories have been established in Perth, Hobart, Melbourne, Sydney, Brisbane, Darwin and Cairns; research vessels are operated by New South Wales, Victoria, Western Australia, Tasmania and South Australia;

(iv) Fisheries Division, Department of Primary Industry, Canberra (economic and management research, fishing technology, extension and education service); and

(v) private fishing companies (surveys of fisheries resources, research into handling, processing and marketing).

Boats and equipment used in fisheries

Fish, crustaceans and molluscs (edible)

The boats used for the estuarine fisheries are mostly small vessels propelled by diesel or petrol engines of low power. The offshore vessels range up to 40 metres in length and are almost invariably powered by diesel engines. Most of them have either insulated holds and carry ice, or are equipped with dry or brine refrigeration. Some rock lobster vessels are fitted with wells in which the catch is kept alive.

The following are the types of equipment most commonly used in the main fisheries: *mullet*, beach seine, gill net; *shark* (edible), long-lines, gill net; *Australian salmon,* beach seine; *snoek*, trolling lines; *flathead*, Danish seine, otter trawl; *snapper*, long-lines, traps, gill net, hand-line; *morwong*, Danish seine, otter trawl, traps; *whiting*, handlines, Danish seine, beach seine, gill net; *garfish*, beach seine; *mackerel*, trolling lines; *tuna*, pole and live-bait, purse seine, trolling lines (lampara nets and purse seines are used for taking live bait for tuna); *prawns*, otter trawl, beam trawl, beach seine net; *rock lobster*, pots, traps; *scallops*, dredge, otter trawl; *abalone*, diving using hookah gear; and *pilchards, anchovies, jack mackerel* and *striped tuna*, purse seine.

Pearls, pearl-shell and trochus-shell

Ketch-rigged luggers about 15 metres long which carry crews of eight to fourteen members are used for pearl-shell fishing in northern Australia.

Boats and equipment employed by industry

The following table shows details of boats and equipment engaged in the taking of fish, crustaceans and edible molluscs, and pearl-shell and trochus-shell; and the number of chasers and stations engaged in whaling operations. Boats engaged in more than one industry are classified to their main activity.

FISHERIES: BOATS AND EQUIPMENT

		1975–76	*1976–77*	*1977–78*
General fisheries—				
Boats	No.	9,110	9,515	10,920
Value of boats and equipment	$'000	225,901	247,502	n.a.
Edible oyster fisheries—				
Boats	No.	(*a*)1,926	(*a*)(*b*)1,747	n.a.
Value of boats and equipment	$'000	(*a*)5,607	(*a*)(*b*)5,742	n.a.
Pearl-shell and trochus-shell—				
Boats(*c*)	No.	15	17	17
Whaling(*c*)—				
Chasers	No.	3	3	3
Stations operating	No.	1	1	1

(*a*) Incomplete; excludes Queensland and Tasmania. (*b*) Incomplete; excludes South Australia. (*c*) *Source:* Department of Primary Industry.

Employment in fisheries

Classification of registered commercial fishermen by industry

The following table has been derived mainly from the licensing records of the various State fisheries authorities. Persons engaged in more than one industry are classified according to their main activity, and so may be classified differently from one year to the next.

PERSONS EMPLOYED ON FISHING BOATS

Industry	*1975–76*	*1976–77*	*1977–78*
General fisheries(*a*)	17,037	17,613	n.a.
Edible oyster fisheries	(*b*)1,390	(*b*)(*c*)1,434	n.a.
Pearl-shell and trochus-shell(*d*)	194	151	156
Whaling(*d*)—			
At sea	51	51	51

(*a*) Figures for general fisheries refer to number of persons (including skippers) reported as usually employed on boats. Persons reported as usually employed on more than one boat for a particular year are counted more than once for that year. Includes the number of licenced commercial fishermen in Western Australia. (*b*) Incomplete: excludes Queensland and Tasmania. (*c*) Incomplete: excludes South Australia. (*d*) *Source:* Department of Primary Industry.

Production, processing and domestic marketing of fisheries products

Value of fisheries production

The following table shows the gross value and local value of fishing and whaling production by States. Because the value of materials used in the course of production is not available for all States, it is not possible to show a comparison of net values. *Gross value of production* is the value placed on recorded production at the wholesale price realised in the principal markets. In general, the 'principal markets' are the metropolitan markets in each State, although, in cases where commodities are consumed locally or where they become raw material for a secondary industry, these points are presumed to be the principal markets. *Local value* (i.e. gross value of commodities produced at the place of production) is ascertained by deducting marketing costs from the gross value of commodities produced. Marketing costs include freight, cost of containers, commission, and other charges incurred in marketing. Gross and local values of primary commodities produced involve some duplication as they include certain primary commodities which are consumed as raw materials to produce other primary commodities (e.g. hay consumed by livestock).

FISHERIES: GROSS AND LOCAL VALUE OF PRODUCTION

($'000)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
GROSS VALUE								
1972–73	(*a*)21,165	11,471	(*b*)13,375	15,759	28,158	5,739	5,068	(*b*)100,732
1973–74	(*a*)20,974	10,895	(*b*)(*c*)15,196	17,442	30,494	7,014	7,295	(*b*)(*c*)109,310
1974–75	(*a*)24,609	8,686	(*b*)12,606	(*d*)14,083	35,130	6,928	5,667	(*b*)(*d*)107,709
1975–76	31,599	10,601	(*b*)(*c*)17,137	(*d*)22,474	51,079	8,511	5,188	(*b*)(*c*)(*d*)146,589
1976–77	36,059	16,014	(*b*)(*c*)34,955	(*d*)27,293	69,094	11,662	11,357	(*b*)(*c*)(*d*)206,434
1977–78	39,665	17,977	(*b*)(*c*)40,799	(*d*)23,236	85,869	12,609	10,337	(*b*)(*c*)(*d*)230,492
LOCAL VALUE								
1972–73	16,898	10,646	12,686	13,969	28,000	5,739	5,068	93,004
1973–74	16,568	8,682	14,387	15,433	30,313	7,014	7,295	99,692
1974–75	21,569	6,949	11,732	12,496	34,785	6,928	5,667	100,127
1975–76	25,334	8,481	16,152	20,022	50,870	8,511	5,228	134,598
1976–77	30,352	13,917	33,953	24,300	68,864	11,662	11,357	194,405
1977–78	33,029	16,539	38,749	20,725	85,566	12,609	10,337	217,554

(*a*) Incomplete; excludes octupus, squid and cuttlefish in New South Wales. (*b*) Incomplete; excludes oysters in Queensland. (*c*) Incomplete; excludes rock lobster in Queensland. (*d*) Incomplete; excludes oysters in South Australia.

Production of selected fisheries

SELECTED FISHERIES PRODUCTS: PRODUCTION AND GROSS VALUE

1977–78

Product		*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
QUANTITY									
Fish(*a*)	tonnes	22,419	9,209	(*b*)5,697	10,051	10,859	3,105	1,451	(*e*)62,789
Crustaceans(*a*)	,,	2,827	345	(*c*)9,035	4,167	14,878	1,193	2,197	(*e*)34,641
Molluscs (edible)(*a*)	,,	10,187	6,831	(*d*)2,858	(*d*)973	1,598	3,068	5	(*e*)25,517
GROSS VALUE ($'000)									
Fish		16,731	11,580	(*b*)6,067	7,329	6,732	2,438	1,900	(*e*)52,778
Crustaceans		10,382	1,752	(*c*)31,444	14,412	68,070	5,019	8,159	(*e*)139,237
Molluscs (edible)		12,552	4,646	(*d*)1,622	(*d*)1,495	1,106	5,152	8	(*e*)26,581

(*a*) Estimated live weight. (*b*) Excludes freshwater fish, particulars of which are not available. (*c*) Incomplete; excludes rock lobster. (*d*) Incomplete; excludes oysters. (*e*) Incomplete; *see* individual States.

SELECTED FISHERIES PRODUCTS: PRODUCTION, AND GROSS VALUE AUSTRALIA

Product		*1975–76*	*1976–77*	*1977–78*
QUANTITY				
Fish(*a*)(*b*)	tonnes	54,973	59,111	62,789
Crustaceans(*a*)	,,	(*c*)33,173	(*c*)36,867	(*c*)34,641
Molluscs (edible)(*a*)	,,	(*d*)21,820	(*d*)22,615	(*d*)25,517
Pearl-shell(*f*)(*g*)	,,	291.2	190.2	150.0
Trochus-shell(*f*)	,,	—	—	—
GROSS VALUE ($'000)				
Fish(*b*)		35,549	43,891	52,778
Crustaceans		(*c*)83,685	(*c*)125,895	(*c*)139,237
Molluscs (edible)		(*d*)20,080	(*d*)27,060	(*d*)26,581
Pearl-shell(*e*)(*f*)		260	182	124
Trochus-shell(*e*)		—	—	—

(*a*) Estimated live weight. (*b*) Excludes freshwater fish caught in Queensland. (*c*) Excludes rock lobster in Queensland. (*d*) Incomplete; excludes oysters in Queensland and South Australia. (*e*) *Source:* Department of Primary Industry. (*f*) Excludes manufacturing shell produced from pearl culture operations.

FISH: PRODUCTION, BY PRINCIPAL TYPES

	Tonnes estimated live weight			*Gross value* ($'000)		
Type	*1975–76*	*1976–77*	*1977–78*	*1975–76*	*1976–77*	*1977–78*
Tuna(*a*)	10,674	10,111	12,291	3,244	4,474	5,564
Mackerel	1,289	1,266	1,480	1,128	1,279	1,446
Snoek	359	419	386	128	304	166
Mullet	6,255	5,635	5,991	2,791	2,726	3,001
Bream (including Tarwhine)	904	884	834	860	1,044	1,246
Australian salmon	3,510	3,591	3,097	1,020	1,112	1,149
Ruff	895	802	1,205	191	252	406
Snapper	1,842	2,147	2,074	2,669	3,463	3,511
Morwong	1,815	1,608	1,593	1,416	1,380	1,373
Whiting	2,853	2,717	2,164	(*b*)4,385	(*b*)4,371	(*b*)4,726
Flathead	2,117	2,037	1,958	1,584	1,555	1,578
Shark	6,320	362	363	3,820	239	234
Leatherjacket	413	6,795	7,899	261	6,466	8,589
Other	15,726	20,736	21,453	12,091	15,227	19,787
Total	**54,973**	**59,111**	**62,789**	**35,589**	**43,891**	**52,778**

(*a*) Includes estimates by CSIRO for New South Wales. (*b*) Value of whiting in Tasmania is not available for publication and has been included in 'Other'.

Crustaceans

CRUSTACEANS: PRODUCTION, BY TYPE

(tonnes live weight)

Type	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Murray crayfish Yabbies	(*a*)113	(*a*)295	184	(*a*)131	83	33
Rock lobster Bay lobster	13,005	(*b*)11,830	12,265	(*a*)12,865	12,875	14,588
Prawns	16,757	24,491	16,327	19,478	23,084	19,166
Crabs	(*a*)647	(*a*)702	712	700	825	854
Total	(*c*)**30,521**	(*c*)**37,318**	**29,488**	(*c*)**33,173**	(*c*)**36,867**	(*c*)**34,641**

(*a*) Excludes Victorian figure, which is not available for publication. (*b*) Excludes rock lobster in Queensland. (*c*) Incomplete; *see* footnotes to figures for individual species.

Molluscs (edible)

MOLLUSCS: PRODUCTION, BY TYPE

(tonnes estimated live weight)

Type	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Octopus	(*a*)40	(*a*)158	(*b*)20	(*c*)59	78	(*c*)92
Squid	(*a*)314		(*b*)212	253	280	343
Cuttlefish	(*a*)–	(*a*)1	(*b*)–	(*c*)19	(*c*)19	(*c*)29
Oysters	(*d*)9,202	(*d*)10,479	(*c*)(*d*)8,908	(*c*)(*d*)10,273	(*c*)(*d*)10,793	(*c*)(*d*)9,774
Mussels	(*a*)23	(*a*)63	1,019	1,123	544	774
Pipi	117	203	193	195	192	141
Scallops	16,953	12,425	6,062	4,642	4,396	9,307
Abalone	6,439	6,032	4,971	5,256	6,313	5,057
Total	(*e*)**33,089**	(*e*)**29,362**	(*e*)**21,386**	(*e*)**21,820**	(*e*)**22,615**	**25,517**

(*a*) Excludes Victorian figure, which is not available for publication. (*b*) Excludes New South Wales figure which is not available. (*c*) Excludes South Australia figure, which is not available. (*d*) Excludes Queensland figure which is not available. (*e*) Incomplete; *see* individual species.

Pearls, pearl-shell and trochus-shell

PEARL CULTURE AND PEARL AND TROCHUS SHELL FISHING OPERATIONS(*a*)

(*Source: Department of Primary Industry*)

		1975	*1976*	*1977*
QUANTITY				
Pearl and Trochus shell fishing operations—				
Production of—				
Pearl shell(*b*)	tonne	291.2	190.2	150.0
Trochus shell	tonne	—	—	—
Pearl culture operations—				
Live shell introduced	No.	578,437	464,327	495,465
	tonne	201.2	116.9	157.5
Production—				
Round and baroque pearls	No.	57,638	82,275	71,384
	momme(*c*)	42,334	64,173	48,056
Half pearls	No.	229,655	302,264	287,283
Manufacturing shell	tonne	105.2	82.4	244.0
VALUE ($'000)				
Pearl and Trochus shell fishing operations—				
Production of—				
Pearl shell		260	182	124
Trochus shell		—	—	—
Pearl culture operations—				
Production of—				
Round and baroque pearls		7,641	5,752	8,853
Half pearls		392	1,063	1,197
Manufacturing shell		49	48	156

(*a*) Figures refer to the year ended January for the Northern Territory and Queensland and to the year ended December for Western Australia. (*b*) Excludes manufacturing shell produced from pearl culture operations. (*c*) A momme is a pearl weight measurement equivalent to 3.769 grams.

Processing of fish, crustaceans and molluscs

Processing plants are located strategically throughout Australia close to fishing grounds. A number of shore-based plants have been established in remote areas of northern Australia to service the expansion of the northern prawn fishery.

Rock lobsters, prawns, abalone and scallops are frozen for export; tuna, snoek, Australian salmon and abalone are canned; small amounts of fish are smoked; and some molluscs are bottled. Hand labour is still used extensively in processing operations, but mechanisation is being progressively introduced.

Ice is used extensively for the chilling of fish taken in estuarine and inshore fisheries. Refrigeration is used particularly on vessels operating in the tuna fishery and prawn fisheries to chill or freeze the catch.

Fish, crustaceans and molluscs intended for export are processed in establishments registered under the Export (Fish) Regulations. Edible fish for local consumption is mainly dispatched fresh-iced to markets.

Whale processing

WHALING

(*Source:* Department of Primary Industry)

		1976	*1977*	*1978*
Whales taken (*a*)—				
Male	No.	650	508	508
Females	„	345	116	171
Total	„	**995**	**624**	**679**
Quantity of sperm whale oil produced (*b*)	barrels	35,190	23,586	n.a.
Value of whale oil produced	$'000	2,240	2,268	n.a.
Value of by-products (meal, meat, solubles, etc.)	„	751	647	n.a.
Total value of products	„	**2,991**	**2,915**	**n.a.**

(*a*) Sperm whales only were taken. (*b*) 6 barrels = approximately 1.016 tonnes.

Oil from sperm whales is used in the manufacture of soap, plastics and watch lubricants, and in automatic transmission systems in motor cars.

Domestic marketing of fisheries products

Although virtually the whole of the tuna and Australian salmon catches are canned, the greater part of Australian fish production is marketed fresh or frozen.

Marketing arrangements for fresh fish vary. In New South Wales, fish marketing is the responsibility of the Fish Marketing Authority which operates the Metropolitan Fish Markets. In other coastal centres of New South Wales, fishermen's co-operatives may become registered as local fish markets. In Queensland, the Fish Board sells all production on behalf of fishermen in that State, except fish intended for export and interstate trade. In Victoria, South Australia, Western Australia and Tasmania, there is no restriction on market outlets. In Victoria, South Australia and Western Australia, most fish is sent to metropolitan wholesale fish markets for auctioning; small quantities are processed for sale locally, chiefly by co-operatives. Nearly all fresh fish in Tasmania is consigned direct to processors. The principal outlets for fish products in Australia are retail and catering establishments.

Consumption of edible fisheries products

Particulars of the apparent consumption of fish, crustaceans and molluscs per head of population are included in the following table. For the purposes of estimating supplies of fish available for consumption, an allowance of 10 per cent of commercial production has been made for the non-commercial catch of fish. No such allowances have been made for crustacea or molluscs as it is considered that the non-commercial take is not significant.

FISHERIES PRODUCTS: APPARENT CONSUMPTION
(Kg edible weight per person per annum)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78p*
Fresh or frozen (edible weight)—						
Fish—						
Australian	1.7	2.0	1.3	1.5	1.5	1.5
Imported	1.4	1.8	1.6	1.6	1.6	1.7
Crustacea and molluscs	0.8	1.2	0.7	1.0	0.9	0.9
Seafood otherwise prepared (product weight)—						
Australian	0.3	0.4	0.7	0.7	0.5	0.5
Imported						
Fish	1.8	2.4	2.1	1.8	2.5	1.9
Crustacea and molluscs						0.4
Total seafood	**6.2**	**7.7**	**6.4**	**6.6**	**7.0**	**6.9**

Overseas trade in fisheries products

Edible fisheries products

OVERSEAS TRADE IN EDIBLE FISHERIES PRODUCTS

	Quantity (tonnes)			*Value f.o.b.($'000)*		
	1976–77	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*
IMPORTS						
Fresh, chilled, frozen or boiled(*a*)	22,033	22,553	24,397	33,718	36,337	46,946
Smoked, dried, salted or in brine	5,257	3,267	4,715	8,933	7,823	10,413
Potted or concentrated	160	141	128	762	862	877
Canned—						
Herrings	1,594	1,178	1,048	1,929	1,966	2,093
Salmon	5,980	6,726	4,015	19,498	22,203	13,812
Sardines, sild, brisling, etc.	2,333	3,244	2,559	4,475	7,382	6,383
Tuna	655	1,529	1,520	1,399	3,507	3,013
Other fish	1,564	1,991	1,491	2,480	3,106	2,442
Crustaceans and molluscs	2,048	2,257	1,929	5,579	7,021	7,422
Total canned	*14,174*	*16,925*	*12,562*	*35,360*	*45,185*	*35,165*
Other prepared or preserved fish, crustaceans and molluscs	14,823	12,132	10,946	29,785	28,508	31,122
Grand total	..	..	..	**108,558**	**118,715**	**124,523**
EXPORTS (Australian produce only; excludes re-exports)						
Fresh, chilled or frozen(*b*)—						
Fish	5,568	4,692	3,390	4,092	2,693	4,045
Crustaceans and molluscs—						
Rock lobster tails	4,982	4,604	4,649	56,580	55,728	56,763
Prawns	7,759	7,489	9,327	52,843	57,217	92,215
Other	1,457	2,636	3,199	6,703	12,283	(*c*)17,621
Crustaceans and molluscs boiled in water	220	857	1,731	1,418	6,199	13,152
Prepared and preserved—						
Fish	188	65	191	417	280	696
Crustaceans and molluscs	1,870	1,485	1,322	12,959	8,671	8,563
Grand total	..	..	..	**135,012**	**143,071**	**193,055**

(*a*) Excludes frozen smoked, which is included in item 'Smoked, dried, etc.' (*b*) Excludes frozen smoked, which is included in item 'Prepared and preserved crustaceans and molluscs'. (*c*) Total value for this item for 1978–79 includes value of $96,000 for which no quantity has been included.

Non-edible fisheries products

OVERSEAS TRADE IN SELECTED NON-EDIBLE FISHERIES PRODUCTS

		Quantity			*Value f.o.b.($'000)*		
		1976–77	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*
		IMPORTS					
Fish heads, fresh or frozen . . .	tonnes	1,631	1,482	1,081	352	341	318
Other fish waste	"	2,344	497	466	384	105	46
Fish, live(*a*)	'000	11,204	11,546	9,194	1,350	1,432	1,221
Fish meal	tonnes	7,629	2,762	6,354	1,956	1,109	1,520
Whale oil	'000 litres	8	10	(*b*)98	8	24	104
Cod-liver oil	"	180	170	185	102	123	146
Other oils (including seal oil) . .	"	123	542	600	275	386	455
Coral and shells and their waste .	tonnes	85	102	157	112	145	190
Tortoise shell (including turtle shell, claws, waste)	"	1	–	–	11	5	–
Pearls		n.a.	n.a.	n.a.	578	1,169	870
Total		..	..	..	**5,128**	**4,839**	**4,870**
		EXPORTS (Australian produce only; excludes re-exports)					
Australian produce—							
Whale oil	'000 litres	6,247	5,219	4,826	2,153	2,399	1,403
Other oils	"	60	67	2	42	69	509
Pearl-shell	tonnes	385	482	307	327	644	511
Other shell (including trochus) .	"	512	1,591	955	355	510	776
Natural pearls		n.a.	n.a.	n.a.	4	63	25
Cultured pearls—							
Round	No.	77,703	95,319	100,290	4,240	4,774	16,090
Half round	"	352,440	264,415	347,984	1,398	1,261	1,135
Other		n.a.	n.a.	n.a.	569	902	1,758
Total		..	..	..	**9,088**	**10,621**	**22,207**

(*a*) Live fish whether or not fit for human consumption. (*b*) Tonne.

Further information on subjects relating to fisheries is contained in the annual statistical publications *Fisheries, Australia* (7602.0 and 7603.0).

CHAPTER 15

WATER RESOURCES

CHAPTER 15

WATER RESOURCES

This chapter is divided into two major parts:—water resources in Australia, and the management of these resources. The former provides information on such topics as the geographic background to water resources, surface and groundwater supplies and use and the drainage divisions in Australia. The latter summarises Australian and State assessment and management of water resources.

Official Year Book No. 51, pages 228–31, contains a description of recent developments in the measurement of Australia's water resources. For information concerning general, descriptive and historical matter *see also* Year Book No. 37, pages 1096–1141.

An article on droughts in Australia appeared in Year Book No. 54, pages 991–6.

Introduction

Rainfall, or the lack of it, is the most important single factor determining land use and rural production in Australia. The chapter Climate of Australia contains details on geographical and climatic features that determine the Australian water pattern. Australia is the driest continent in the world. The scarcity of both surface and groundwater resources together with the low rates of precipitation, which restrict irrigation and other uses (quite apart from economic factors), has led to extensive conservation programs of dams, reservoirs, large tanks and other storages.

Geographic background

General. Water resources are determined by rainfall, evaporation and physical features including soil, vegetation and geology. Chapter 2, Climate of Australia, contains a detailed description of the climatic features of the country. A brief description of the landforms appears in Year Book No. 61, pages 25–27. In assessing Australia's water resources, dependability and quality of supply must be considered, as well as amount.

Topography. The major topographical feature affecting the rainfall and drainage patterns in Australia is the absence of high mountain barriers; features range from sloping tablelands and uplands along the east coast Main Divide through the low plain and marked depression in the interior to the Great Western Plateau.

Drainage. Only one-third of the Australian land mass drains directly to the ocean, mainly on the coastal side of the Main Divide and inland with the Murray-Darling system. With the exception of the latter, most rivers draining to the ocean are comparatively short and account for the majority of the country's average annual discharge.

The interior lowlands exhibit endoreic drainage patterns and surface drainage is totally absent from some arid areas of low relief.

Climate. Australia's large area (7.7 million square kilometres) and latitudinal range (3,700 kilometres) have resulted in climatic conditions ranging from the alpine to the tropical. Two-thirds of the continent is arid or semi-arid, although good rainfalls (over 800 mm annually) occur in the northern monsoonal belt under the influence of the Australian-Asian monsoon and along the eastern and southern highland regions under the influence of the great atmospheric depressions of the Southern Ocean. The effectiveness of the rainfall is greatly reduced by marked alternation of wet and dry seasons, unreliability from year to year, high temperatures and high potential evaporation.

Settlement. The availability of water resources controls, to a large degree, the possibility and density of settlement; these, in turn, influence the quality of the water through production and disposal of waste. Most early settlements were established on the basis of reliable surface water supplies and, as a result, Australia's population is concentrated along the coast, mainly in the comparatively fertile, well-watered east, south-east and far south-west.

As settlement spread into the dry inland grazing country, the value of reliable supplies of underground water was realised. Observations of the disappearance of large quantities of the rainfall precipitated on the coastal ranges of eastern Australia eventually led to the discovery of the Great Artesian Basin which has become a major asset to the pastoral industry.

For further information on the influence of water resources on the spread of settlement in Australia *see* Year Book No. 61, page 860.

Surface supplies

Distribution and volume. As described above, permanent rivers and streams flow in only a small part of the continent. The average annual discharge of Australian rivers has been assessed at 343 x 10^9 cubic metres, of which 157 x 10^9 cubic metres is measured discharge and the remainder is estimated. This is small in comparison with river flows on other continents. In addition, there is a pronounced concentration of runoff in the summer months in northern Australia while the southern part of the continent has a distinct, if somewhat less marked, winter maximum.

Variability of flow. Even in areas of high rainfall, large variability in flow means that, for local regional development, most streams must be regulated by surface storage. However, in many areas evaporation is so great that storage costs are high in terms of yield. Extreme floods also add greatly to the cost of water storage, because of the need for adequate spillway capacity.

Potential development. Some 85 per cent of all water used in Australia is surface water. This quantity is about 15 x 10^9 cubic metres a year and represents about 12 per cent of the possible usable surface water available in Australia; it does not include the amount diverted for hydro-electric power generation and other purposes which does not affect the quantity of water available. However, the great variability of river discharge, high evaporation and lack of sites for storage on many catchments limit potential development. As an indication of the severity of the problem, Australia's runoff is estimated at 13 per cent of rainfall compared with 40 per cent in North America and Europe, 36 per cent in South America and Asia and 24 per cent in Africa, with the complementary figure representing the evaporation and transpiration percentage. There is, however, considerable scope for greater efficiency in water use.

Groundwater supplies

Groundwater is more important than surface water in about 60 per cent of the country. Australia's estimated annual groundwater recharge is 72 x 10^9 cubic metres, and annual groundwater usage is estimated at about 2.3 x 10^9 cubic metres.

An indication of the variability in quality and quantity of Australia's groundwater resources is given in the map sheets accompanying the Australian Water Resources Council's publication, *Groundwater Resources of Australia (1975)*.

Groundwater is divided according to its occurrence in the three main classes of aquifer:

(i) *Shallow unconsolidated sediments* comprise alluvial sediments in river valleys, deltas and basins; aeolian (windblown) sediments which generally occur in coastal areas; and lacustrine (lake) sediments. These sediments are often highly permeable and porous. Permeability and porosity may vary markedly according to orientation. Unconsolidated aquifers of this group generally occur at depths of less than 150 m and are often readily accessible to sources of water for recharge. Marked seasonal variations in water level are common.

(ii) *Sedimentary rocks* are generally made up of consolidated sediments. The aquifers owe their porosity to small voids between the grains which are often well compacted and cemented. They often cover significant areas, being continuous and of appreciable thickness. Rock strata usually dip quite gently. Nevertheless, over the full extent of the larger sedimentary basins, aquifers may reach great depths. Areas where recharge takes place may be small in relation to the extent of the aquifers. Water quality in individual aquifers may be quite good and fairly uniform over large areas. Some sediments contain a number of permeable and impermeable layers, creating a vertical sequence of separate aquifers, and water quality may vary greatly between them.

(iii) *Fractured rocks* comprise hard igneous and metamorphosed rocks which have been subjected to disturbance and deformation. Aquifers resulting from the weathering of any rock type are also included in this group. Water is transmitted mainly through joints, bedding planes, faults, caverns, solution cavities and other spaces in the rock mass.

The quality of groundwater varies considerably and sources are subject to pollution in much the same way as surface supplies. Locally, groundwater has also been polluted by poor drilling techniques which allow contamination of fresh or lower salinity waters by more highly saline waters, and also by the discharge of industries wastes into underground drainage bores. The Port Phillip Basin has the problem of discharge of industrial and domestic waste underground, and in the Western Port Basin there has been control of groundwater withdrawal since 1968 to prevent overdraft and salt-water intrusion.

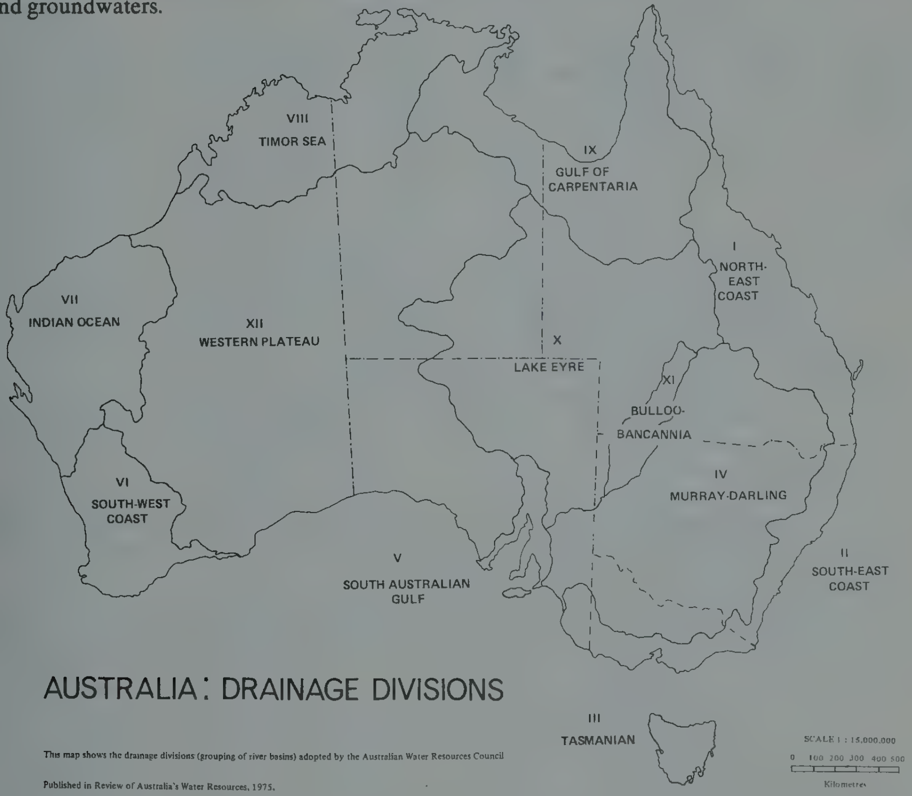
For further details on the sources of groundwater and a table of the principal water-bearing basins in Australia, *see* Year Book No. 61, pages 865–6. A map showing the extent of known artesian basins throughout Australia is shown on page 273 of Year Book No. 48.

Drainage divisions and the use of surface and groundwaters

Groundwater and surface water have, in the past, tended to be viewed as separate resources because of their modes of occurrence, assessment and development. They are complementary components of the hydrologic cycle and in any assessment of the water resources of a region are not necessarily additive.

To promote a unified approach, river basins or groups of river basins have been adopted as the primary units of assessment. The *Review of Australia's Water Resources* 1975 (Department of National Development, Australian Water Resources Council, Canberra) contains a summary of the 244 river basins grouped into twelve divisions, together with a map showing the divisions. (*See* below.)

The conjunctive approach to water resources, even to importing water from outside the region, generally makes more water available for use than would be the case with independent use of the various sources. Year Book No. 61, pages 867–8 contains details of the conjunctive use of surface and groundwaters.


VIII
TIMOR SEA
IX
GULF OF CARPENTARIA
I
NORTH-EAST COAST
VII
INDIAN OCEAN
XII
WESTERN PLATEAU
X
LAKE EYRE
XI
BULLOO-BANCANNIA
IV
MURRAY-DARLING
VI
SOUTH-WEST COAST
V
SOUTH AUSTRALIAN GULF
II
SOUTH-EAST COAST
III
TASMANIAN
SCALE 1 : 15,000,000
0 100 200 300 400 500
Kilometres

AUSTRALIA: DRAINAGE DIVISIONS

This map shows the drainage divisions (grouping of river basins) adopted by the Australian Water Resources Council

Published in Review of Australia's Water Resources, 1975.

PLATE 39

In the *Review of Australia's Water Resources,* 1975 an attempt was made to assess the possible exploitable yield of surface water for each river basin (aggregating to Drainage Divisions) at the point of lowest practical downstream development, using the type of hydraulic structure considered technically feasible by the governments. These estimates take into account average annual flow, variability of flow, water quality and the availability of suitable sites for storage, but do not take into account economic factors.

The total annual commitment of surface water is about 30 x 10^9 cubic metres, which represents 24 per cent of the possible exploitable yield but only 8.6 per cent of the total runoff of Australian streams. The reasons for this low overall commitment are:

- economic resources are not fully developed.
- potential developments, while technically feasible, are expensive due to topographic and climatic limitations.
- bulk of surface water resources are remote from centres of population.

Surface water resources are developed for consumptive or non-consumptive uses. Consumptive use refers to domestic, industrial and agricultural uses and involves the removal of water from the stock of usable resources. The commitments for the table below are mostly for consumptive use in irrigation. Non-consumptive use comprises instream use of water and includes hydro-electric power generation, recreation and transportation.

AN ASSESSMENT OF THE POSSIBLE YIELD OF SURFACE WATER BY DRAINAGE DIVISION

(*Source:* Review of Australia's Water Resources, 1975)

Drainage division	*Adopted drainage area*	*Average annual discharge (a)*	*Annual commitments(a)*			*Possible exploitable yield*	*Commitments as a per cent-age of exploitable yield*	*Estimated total yield of drainage area*	*Possible exploitable yield as per cent-age of total yield*
			Present	*Authorised and planned*	*Total*				
	mil ha		mil. cubic metres					mil. cu. m.	
I North-East Coast	45	82,500	2,595	761	3,356	25,566	13	75,620	34
II South-East Coast	27	39,396	2,658	1,287	3,945	(*b*)15,992	24	37,499	43
III Tasmania	7	49,799	1,722	73	1,795	35,495	5	49,799	71
IV Murray-Darling	106	22,261	15,941	793	16,734	18,372	91	22,204	83
V South Australian Gulf	8	980	135	38	173	283	61	913	31
VI South-West Coast	31	7,290	343	27	370	1,841	20	4,935	37
VII Indian Ocean	52	4,160	—	75	75	490	15	3,815	13
VIII Timor Sea	55	74,260	3,083	45	3,128	16,423	19	74,260	22
IX Gulf of Carpentaria	64	58,230	76	86	162	10,094	2	49,180	21
X Lake Eyre	117	3,260	9	—	9	129	7	3,180	4
XI Bulloo-Bancannia	10	540	3	—	3	n.a.	n.a.	540	n.a.
XII Western Plateau	246	—	—	—	—	—	—	—	—
Australia	**768**	**342,676**	**26,565**	**3,185**	**29,750**	**124,685**	**24**	**321,945**	**39**

(*a*) Includes fresh and marginal water but excludes brackish and saline water. (*b*) Includes a small amount of brackish water.

Groundwater is an important substitute for surface water in many parts of the country such as in the arid interior where the Great Artesian Basin provides the only reliable continuous supply of water for stock and domestic purposes. This Basin underlies 23 per cent of the continent and some 30,000 holes have been drilled, about 2,900 of which are still flowing. The high ratio of sodium to calcium and magnesium ions has an adverse effect on soil structure, rendering it impervious and generally unsuitable for irrigation.

Groundwater is increasing in importance as a source of water for irrigation, industry and domestic supply. There are many areas of intensive groundwater development which, although small, accounted for over a third of all groundwater withdrawals in 1975. The areas shown in the table below rely almost exclusively on groundwater from unconsolidated sediments.

Increasing use is made of conjunctive schemes, for example, where groundwater supplies are tapped to augment surface water or where, as in the Burdekin Delta, groundwater aquifers are artificially recharged during the summer wet season to enable water to be stored at low cost with negligible evaporation.

AREAS OF CONCENTRATED GROUNDWATER USAGE IN AUSTRALIA

(*Source:* Review of Australia's Water Resources, 1975)

Area	*Quantity*	*Use*
	mil. cu m/year	
Burdekin Delta (Queensland)	320	Irrigation of sugar cane
Namoi Valley (New South Wales)	108	Irrigation of small crops, including cotton
Condamine Valley (Queensland)	100	Irrigation of grain crops
Southeastern South Australia(*a*)	98	Irrigation, town supplies and industry
Bundaberg (Queensland)	94	Irrigation of sugar cane, industrial and domestic use
Lockyer Valley (Queensland)	70	Irrigation of small crops and fodder
Perth (Western Australia)	66	Irrigation of market gardens, domestic gardens and urban water supply
Hunter Valley (New South Wales)	53	Irrigation of small crops
Callide Valley (Queensland)	35	Irrigation of fodder and grain crops
Tomago Sands (New South Wales)	31	Urban water supply and industrial use
Pioneer Valley (Queensland)	31	Irrigation of sugar cane and domestic use
North Adelaide Plains (South Australia) (*a*)	21	Irrigation of market gardens
Botany Sands (New South Wales)	20	Industrial use
Sub-total	*1,047*	
Estimated total groundwater usage	**2,300**	

(*a*) Includes some water from limestone aquifers.

Major dams and reservoirs

A map entitled *Australia—Dams and Storages*, published in 1975 by the Department of Minerals and Energy (now the Department of National Development), shows the location, height of dam wall, capacity and purpose of Australia's major dams and water storages.

The table below lists major dams and reservoirs by State. It should be noted that the Hume Reservoir lies on the New South Wales-Victoria border.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA

Name and year of completion	*Location*	*Gross capacity (million cubic metres)(a)*	*Height of wall (metres) (b)*	*Purpose*
NEW SOUTH WALES				
Eucumbene (1958)	Eucumbene River	4,807	116	Part of Snowy Mountains H/E Scheme
Hume (1936, 1961)	Murray River, near Albury	3,038	51	Irrigation, water supply, H/E
Warragamba (1960)	Warragamba River	2,057	137	Water supply for Sydney, H/E
Menindee Lakes (1960)	Darling River, near Menindee	1,794	18	Conservation, storage for Murray River Agreement
Burrendong (1967)	Macquarie River, near Wellington	1,677	76	Conservation, FC, water supply
Blowering (1968)	Tumut River	1,628	112	H/E, irrigation
Copeton (1976)	Gwydir River	1,364	113	Irrigation
Wyangala (1936, 1971)	Lachlan River	1,220	85	Irrigation, stock, etc.
Burrunjuck (1927, 1956)	Murrumbidgee River	1,026	79	Irrigation, H/E
Talbingo (1971)	Tumut River	921	162	H/E
Jindabyne (1967)	Snowy River	688	72	H/E
Lake Victoria (1928)	Murray River, near S.A. border	680	—	Conserves supplies for S.A.
Keepit (1960)	Namoi River, near Gunnedah	423	55	Conservation, irrigation, H/E
Glenbawn (1958)	Hunter River, near Scone	360	78	Conservation, irrigation, FC
Tantangara (1960)	Murrumbidgee River	254	45	H/E
Avon (1927)	Avon River	214	72	Water supply for Sydney
Googong (1978)	Queanbeyan River	125	59	Water supply for Canberra-Queanbeyan
VICTORIA				
Dartmouth (1979)	Mitta Mitta River	4,000	180	Irrigation storage, H/E
Eildon (1927, 1955)	Upper Goulburn River	3,392	79	Irrigation, H/E
Waranga (1910)	Near Rushworth (Swamp)	411	12	Irrigation
Mokoan (1971)	Winton Swamp, near Benalla	365	10	Irrigation
Rocklands (1953)	Glenelg River	336	28	Domestic and stock water supply
Eppalock (1964)	Campaspe River	312	45	Irrigation, water supply
Cardinia (1973)	Cardinia Creek, near Emerald	287	79	Water supply for Melbourne
Upper Yarra (1957)	Yarra River	207	89	Water supply for Melbourne
Glenmaggie (1927, 1958)	Macalister River	190	37	Irrigation
QUEENSLAND				
Fairbairn (1972)	Nogoa River, central Qld	1,440	49	Irrigation, industrial
Somerset (1959)	Stanley River	893	50	Water supply for Brisbane, H/E
Fred Haigh (1975)	Kolan River, near Gin Gin	586	52	Irrigation
Ross River (1974)	Near Townsville	417	35	FC, water supply
Tinaroo Falls (1958)	Barron River	407	47	Irrigation, H/E
Glenlyon (1976)	Pike Creek, near Stanthorpe	261	62	Irrigation
Wuruma (1968)	Nogo River, near Eidsvold	194	46	Irrigation
Koombooloomba (1961)	Tully River	180	52	H/E, irrigation
Julius (1977)	Leichhardt River, near Mt Isa	127	35	Water supply, mining
WESTERN AUSTRALIA				
Lake Argyle (Ord) (1971)	Ord River, near Wyndham	5,720	99	Irrigation, FC, H/E
South Dandalup (1973)	Near Mandurah	208	41	Water supply for Perth
Wellington (1933, 1944, 1960)	Collie River	185	37	Irrigation, water supply
Serpentine (1961)	Serpentine River	178	55	Water supply for Perth

For footnotes *see* end of table

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA—*continued*

Name and year of completion	*Location*	*Gross capacity (million cubic metres)(a)*	*Height of wall (metres) (b)*	*Purpose*
		TASMANIA		
Lakes Gordon and Pedder (1974)—				
Gordon	South West	11,671	140	H/E
Scotts Peak Serpentine Edgar		2,960	43 38 17	
Miena (1967)	Great Lake	2,390	18	Storage for H/E
Lake St Clair (1938)	Central Plateau	2,000 (est.)	3	Natural storage for H/E
Lake Echo (1956)	Lake Echo	725	19	H/E
Lake King William (Clark) (1949, 1966)	Derwent River	541	73	H/E
Arthur's Lake (1965)	Source of Lake River, near Great Lake	511	17	H/E
Devils Gate (1969)	Forth River, near Devonport	180	84	H/E
Rowallan (1967)	Mersey River	131	43	H/E
		NORTHERN TERRITORY		
Darwin River (1972)	Darwin River	259	31	Water supply for Darwin

(*a*) Includes 'dead water', i.e., water below the operational outlet of the reservoir. (*b*) As a general rule, the figures shown for height of wall refer to the vertical distance measured from the lowest point of the general foundation to the crest of the dam, i.e., the level of the roadway or walkway on the dam.

ABBREVIATIONS: H/E—hydro-electricity, FC—Flood control and/or mitigation.

MAJOR DAMS AND RESERVOIRS UNDER CONSTRUCTION OR PROJECTED

Name	*Location*	*Gross capacity (million cubic metres)(a)*	*Height of wall (metres)(b)*	*Purpose*
		UNDER CONSTRUCTION		
Wivenhoe	Brisbane River, near Fernvale, Qld	1,150	58	Water supply, FC, H/E
Thomson	Thomson River, near Erica, Vic.	1,110	160	Water supply, irrigation
Tallowa (Lake Yarrunga)	Confluence of Shoalhaven, Kangaroo Rivers, N.S.W.	135	43	Water supply
		PROJECTED		
Burdekin Falls Dam	Burdekin River, Qld	1,750	68	Irrigation
Mackintosh	Mackintosh River, Tullibardine River, near Queenstown, Tas.	922	77 24	H/E
Lower Pieman	Pieman River, near Queenstown, Tas.	641	120	H/E
Split Rock	Manilla River, Namoi Valley, N.S.W.	370	64	Irrigation
Windamere	Cudgegong River, near Mudgee, N.S.W.	353	69	Irrigation
Boondooma	Boyne River, near Proston, Qld	212	50	H/E, Irrigation
Tanjil (Blue Rock)	Tanjil River, near Willow Grove, Vic.	200	75	Cooling water (power)
Gunpowder	Gunpowder Creek, near Mount Isa, Qld	141	44	Mining, water supply
Spencer	Denison Creek, near Nebo, Qld	127	24	Mining, water supply
Bastyan (Lake Rosebery)	Pieman River, near Queenstown, Tas.	124	74	H/E

For footnotes and abbreviations *see* previous table.

The following table summarises dams and storages existing and under construction in each drainage division according to purpose, capacity and regulated discharge. Three storages counted as mainly for hydro-electricity in the South-East Coast Division and eight in the Murray-Darling are part of the Snowy Mountains Hydro-electric Scheme which, as a whole, makes a major contribution to irrigation.

LARGE DAMS–NUMBERS EXISTING AND UNDER CONSTRUCTION

(*Source:* Review of Australia's Water Resources, 1975)

		Main purpose					
Drainage division(a)	*Total number*	*Irrigation*	*Hydro-electricity*	*Water supply*	*Flood control, recreation*	*Total capacity*	*Regulated discharge*
						mil. cu. m	mil. cu. m.
I North-East Coast	33	12	1	20	—	4,100	1,300
II South-East Coast	99	5	5	87	2	10,700	2,700
III Tasmania	43	1	31	11	—	19,500	8,700
IV Murray-Darling	104	34	15	53	2	20,700	10,500
V South Australian Gulf	24	—	—	23	1	240	150
VI South-West Coast	24	8	—	15	1	870	360
VII Indian Ocean	1	—	—	1	—	(*b*)	(*b*)
VIII Timor Sea	8	5	—	3	—	6,100	1,900
IX Gulf of Carpentaria	4	—	—	4	—	140	10
X Lake Eyre	2	1	—	1	—	(*b*)	(*b*)
Australia	**342**	**66**	**52**	**218**	**6**	**62,350**	**25,620**

(*a*) Divisions XI and XII are not represented. (*b*) negligible.

NOTE: 1. Although most dams are used for water supply, the greatest volume of water is reserved for irrigation.
2. 'Total capacity' of storages is not the same as 'gross capacity' which includes an estimate for water below the operational outlet of the reservoir.

Water quality

Water quality is an important factor in determining the potential use of a particular water resource. Its management is essentially aimed at maintaining each resource in a condition suitable for the beneficial use or uses considered appropriate by the community.

Quality of water may be highly variable over time. Runoff resulting from rainfall may pick up a whole range of contaminants in passing over and through the soil; evaporation results in the concentration of these dissolved solids while, on the other hand, storm waters can dilute the concentration of pollutants. Water quality, while being generally related to the quantity of flow, may also vary with the depth and breadth of a body of water.

In the long term, land use changes generally affect the quality of groundwater where runoff enters aquifers. For example, the replacement of deep rooted trees in the south-west of Western Australia by shallow rooted grasses for agriculture has disturbed the natural water and salt balance, mobilising salt and increasing stream salinity. About 160,000 hectares of land have been rendered too saline for normal crops and pastures, while water quality in the Wellington Dam storage continues to deteriorate because of this saline inflow, affecting irrigation users downstream as well as urban communities in the Great Southern Towns Water Supply region which rely on this source for domestic water. Elsewhere, salination of non-irrigated land, particularly in Victoria, is increasing mainly as a result of land clearing, and water quality will deteriorate as saline runoff and seepage finds its way into streams.

Although some Australian rivers are naturally saline, the quality of surface water is generally good. However, most types of water pollution experienced in advanced industrial countries also occur in Australia. The main problems relate to sewerage, industrial effluents and increasing salinity mainly caused by agricultural activities. In some parts of Australia untreated or inadequately-treated sewage and trade effluents are discharged into inland and coastal streams used for town water supplies. Mining activities cause pollution by the discharge of ore-processing wastes or mine water into streams or by leaching from waste dumps as happened in the Molonglo River in New South Wales where zinc was being leached from tailings and slime dumps at Captains Flat. Remedial work at Captains Flat has now been undertaken to prevent further erosion and leaching of the waste dumps, and to minimise the flow of mine water discharging through springs into the Molonglo River.

Water supplies to many towns and small settlements throughout Australia are of low quality and can at times exceed the World Health Organisation standards for drinking water. In many cases, relief may be possible through small water treatment plants.

The increasing salinity of the Murray River in recent years is a source of concern as the river is vital for irrigation and domestic water and provides much of Adelaide's water supply. The problem is the increasing amounts of saline surface and underground water discharged from irrigation areas, compounded by concentration through evaporation. This is in addition to the river's quite high natural salt load. Groundwater mounds have progressively built up under some irrigation areas to the point where the water table has reached the root zone in some irrigation areas causing reduced productivity and, where saline, complete barrenness. As the sedimentary beds of the river basin were laid down under a marine environment, the groundwater is generally saline and, when drainage does return to the river, it carries large amounts of salt. Salinity levels in the river, however, vary seasonally. During periods of low flow or when seepage from the saturated banks returns following prolonged floods, the concentration of salts may increase significantly, approaching the salt susceptability limits of some crops. Citrus growers in some areas are having to install under-tree sprinkler systems to prevent yield depression, defoliation and other tree damage caused by saline water from overhead sprinklers. Present control measures include the provision of evaporation basins for the disposal of highly saline drainage water and the regulation of river flow to control water quality by dilution.

Salinity and drainage control is expensive and requires a co-ordinated approach. For example, as irrigation area drainage schemes are implemented or extended, additional salt will be added to the river although highly saline drainage water may be disposed of in evaporation basins. New South Wales, Victoria and South Australia, together with the Commonwealth, have been involved in a recent study into salinity and drainage problems in the River Murray with a view to developing a co-ordinated action plan. Urgent projects to intercept saline groundwater flows and to lower saline watertables have already commenced under the Commonwealth's National Water Resources Program. A longer term approach, now being considered, is likely to involve engineering works, river management including dilution flows, improved irrigation practices and research. Further, the River Murray Commission has begun to exercise its recently added water quality responsibilities agreed to by governments and this role will no doubt expand in the future.

Water management

Australia's water resources are managed by about 800 irrigation authorities, metropolitan water boards, local government councils and private individuals. State authorities dominate the assessment and control of water resources as, under the Commonwealth Constitution, primary responsibility for management of water rests with the individual State governments. The Commonwealth Government is responsible for matters relating to its Territories, and participates indirectly through financial assistance or directly in the co-ordination or operation of interstate projects through bodies such as the River Murray Commission. In other instances where political boundaries intersect some river basins, co-operation between governments has been necessary to develop resources.

Australia's attitudes to water resources management have changed substantially over the last twenty years. Water management is no longer seen just in terms of storing water and regulating streams for consumptive use, but also in terms of conserving unregulated streams in an unmodified landscape for wild life preservation or recreation purposes or for possible social or economic use by future generations. In addition, agricultural, industrial and urban development has led to greater attention being paid to water quality management.

In October 1975, the Commonwealth and State governments adopted a statement setting out the basic principles and goals underlying a balanced approach to the development and management of water resources in Australia. *See* Year Book No. 63, page 340, for further details.

The development of water resources in the States has an important bearing on the Commonwealth's broad interests in economic management, resource allocation, foreign exchange earnings, distribution of income and related matters. Consequently, the Commonwealth has participated in water resource matters in the States in instances of mutual Commonwealth/States concern or in the national interest. Currently a $200 million, five year National Water Resources Program, which was announced by the Prime Minister in February 1978, is financially assisting the States in the development, management and assessment of their water resources.

In response to recommendations in a report of a Senate Inquiry into the Commonwealth's role in water resources matters, a Commonwealth Water Policy was announced in March 1979. In co-operation with the States the Commonwealth is seeking to achieve the long-term beneficial use of Australia's water resources. Briefly, the main policy thrusts appropriate to the Commonwealth for this purpose were seen to be:

- ensure, as far as practicable, that water resource difficulties do not constrain national development;
- minimise losses and disruption caused by floods;
- encourage management practices which reverse trends in the deterioration of water quality and associated land resources;
- encourage a comprehensive approach to water/land planning and management;
- encourage the efficient use of water resources;

- encourage the development of financial and cost allocation policies appropriate to changing economic circumstances and community values; and,
- encourage public awareness and involvement in water resource issues.

A number of key water issues relating to the development and management of Australia's water resources are already receiving close attention: others are expected to emerge in the near future. Some relate to water quality, including that resulting from irrigation-induced and dryland salinisation, specific and widespread sources of pollution in both urban and agricultural areas, aquatic weeds, levels of treatment for urban water supplies, and the cost and technology of water re-use.

Water resources readily accessible to centres of demand are already substantially committed, although there is a widespread recognition of the considerable scope which still exists for increased efficiency in the use of existing supplies. However, on a local or regional basis, the availability of adequate water supplies is becoming a key factor in continuing economic development. It appears inevitable that new supplies, in certain situations, will depend on the processing of water resources of marginal quality and waste water to acceptable standards for domestic and industrial use. In turn, this will generate pressures for the development of more advanced water treatment technologies.

Research and continuing assessment of water resources

Australian Water Resources Council (AWRC)

A widening awareness of the need for a co-ordinated Australian approach to water utilisation led to the formation in 1962 of the Australian Water Resources Council by joint action of the Commonwealth and State governments. The Council comprises the Commonwealth and State Ministers primarily responsible for water resources, with the Commonwealth Minister for National Development as Chairman, and is serviced by a Standing Committee consisting mainly of the heads of Departments responsible to these Ministers, and by five permanent technical committees with a number of supporting groups.

The objective of the Council is to provide a forum for exchange of views relating to the development of policies, guidelines and programs which may be considered appropriate to assist in the most beneficial and orderly assessment, development and management of Australia's water resources.

See Year Book No. 61, page 869 for further details on the work of the AWRC.

Water resources research

Comprehensive programs of research and investigation are being pursued by State water and agricultural authorities, the Commonwealth Scientific and Industrial Research Organization (CSIRO) and the Australian Water Resources Council, often in collaboration. The Commonwealth Water Research Fund was established in 1968 to provide support for a research program developed through the Australian Water Resources Council. The Fund is administered by the Department of National Development. The program covers fundamental and applied research into all aspects of water resources with the aim of providing a better basis for the assessment, planning, development and management of Australia's water resources. It complements research work being carried out by the government agencies, universities and other organisations and, in general, is used to stimulate new work not handled within existing programs. The program for the current 1977–80 triennium is diverse with emphasis on projects concerned with various aspects of water quality and water re-use, groundwater investigations, water resources planning and development of measurement techniques.

Water research by the CSIRO can be grouped under the following broad headings:

Catchment hydrology, underground water and water quality. Included in this area are studies aimed at identifying the relationships which exist between the characteristics of a regional landscape, such as its vegetation, slope, soil and morphology, and the associated climate and hydrology. An understanding of these relationships is essential to enable us to assess the likely consequences of changes in land use. For example, the mathematical models being developed as part of this research can be of assistance in predicting the changes which occur when rural areas become urbanised and in the design of the associated drainage systems.

Studies are also being conducted to help determine the occurrence, distribution and environmental significance of pollutants, such as heavy metals, in water, sediments and the biota which result from agricultural, industrial and mining operations.

Effects of plant communities on water quantity and quality. Changes in the type of vegetation resulting from man's use of the land may have substantial effects on both the quality and quantity of water flowing from the landscape. For this reason, research into the structure and dynamics of Australian plant communities is being undertaken to assist in their management as natural, agricultural, forestry and recreational resources in relation to water resources management.

Studies are also being conducted into the effects of clearing land (and its use for agricultural and pastoral purposes) on the increase in nutrient concentrations and the salinity of streams and underground water.

In addition, research is being undertaken into the ecology of aquatic weeds, particularly those of irrigation channels, so that a program of management may be devised. This work includes investigating the behaviour of herbicides used in weed control and their persistence in water, soil and irrigated crops.

Water purification and effluent treatment. The aim of this research is to extend Australia's limited water resources by the use of purification and recycling technology. A notable recent development in this field is the establishment of a pilot water treatment plant in Western Australia using the SIROTHERM process to remove chemical impurities.

Research is also being directed to improving methods of treating sewage, and developing techniques for reducing pollution due to industrial effluents.

See Year Book No. 61, pages 863–4 for additional data on research activities in Australia.

International aspects

International water organisations

Australia liaises with international bodies and United Nations agencies concerned with water resources and participates in their activities in various ways.

Organisation for Economic Co-operation and Development (OECD). Australia's membership of the OECD since 1970 has involved participation in the work of the Water Management Group which investigates and rationalises problems which are the subject of international concern, and develops strategies—economic, legal and technical—which might resolve them.

United Nations Educational, Scientific and Cultural Organization (UNESCO). The International Hydrological Decade (IHD) (1965–1974) was a period in which participating countries implemented an international program designed to advance the science and practice of hydrology. Following the conclusion of the IHD, an International Hydrology Program (IHP) was commenced and an Australian UNESCO Committee for the IHP (AUCIHP) was formed to co-ordinate Australian input to the IHP.

World Meteorological Organization (WMO). A Commission on Hydrology has recently strengthened its role in operational hydrology. There is an Advisory Committee on Operational Hydrology on which Australia and the Philippines are represented on behalf of the WMO Regional Association V (S.E. Asia). In Australia, hydrological activities and meteorological activities relative to water resources are co-ordinated by the Australian Water Resources Council.

Economic and Social Commission for Asia and the Pacific (ESCAP). This Commission, through its committee on Natural Resources, reports on water policy issues in addition to other activities. By participation in this conference and in seminars arranged on selected topics, Australia contributes to, and benefits from, identification of the main problems of water resources management in a densely populated, developing region.

United Nations Environment Program (UNEP). Australia participates in a world registry of major rivers covering discharge and pollutants and of clean rivers so defined and in the development of methodology for analysis and planning of water resources management.

World Health Organisation (WHO). Australia is participating in the water quality monitoring component of the WHO Global Environmental Monitoring System (GEMS) which will provide a consistent global overview of changes in water quality.

National and interstate agreements

In the section on *Water Management* above, reference was made to the responsibilities of government on the national, state and local authority levels. In this section, some additional details are provided on their roles in the management of water resources.

The Murray-Darling Drainage Division's surface water resources are the most highly developed in Australia, with 91 per cent of the possible exploitable yield currently committed for use. The Division contains the continent's largest river system which can be divided into three main groups of rivers:

(*a*) the Darling River and its tributaries;
(*b*) the Murrumbidgee River and its tributaries; and
(*c*) the Murray River and its tributaries upstream from the confluence of the Murrumbidgee and the Murray.

The river basins that comprise the area under the control of the River Murray Commission are the nine basins in group (*c*) above and the three basins adjacent to the lower reaches of the Murray.

River Murray Waters Agreement

The *River Murray Waters Act* 1915 ratified an Agreement between the Commonwealth and the States of New South Wales, Victoria and South Australia. The Commonwealth Department of National Development is responsible for the Commonwealth's interest under the Act. Year Books prior to No. 39 contain a number of summaries of the historical events leading to the Agreement of 1914 which provided for a minimum quantity of water to pass to South Australia. Further details on the River Murray Waters Agreement and subsequent amendments may be found in Year Book No. 61, pages 870–2.

The River Murray Commission, established in 1917 to give effect to the Agreement and representative of each of the four Governments, is responsible for the management of the flow of water in the River Murray, the construction, maintenance and operation of storages and other regulatory works to make water available for irrigation, navigation, and urban purposes; and for the allocation of water between the three States. The construction of Dartmouth Dam—a major project of the River Murray Commission and the fourth largest water storage in Australia, will be completed by the end of 1979. The reservoir has been storing water since November 1977.

Dartmouth and Hume Reservoirs together with Lake Victoria and the Menindee Lakes storages, are the key storages operated by the River Murray Commission to regulate the River Murray system. A series of weirs along the river provide for irrigation diversions by the three States. The major diversion weir is at Yarrawonga. A number of the weirs have locks to enable navigation of the river to be maintained.

Towards the end of 1976, the four Governments agreed that the River Murray Commission should assume the function of co-ordinating water quality and quantity management of the River Murray to the extent of taking account of water quality in its operations and investigations, monitoring the quality of the river, and being authorised to make representations to the Contracting States on water quality issues. The Governments agreed to give the Commission interim authority in this regard pending the necessary legislative action and formal amendment of the Agreement.

A preliminary draft substitute Agreement has been accepted in principle by the four Governments as a basis for negotiations on a new Agreement.

New South Wales-Queensland Border Rivers Agreement

This agreement came into effect in July 1947 and provided for the construction of a dam and several weirs on the rivers which constitute part of the boundary between the two States. This Act was amended in November 1968 to provide for storages on Pike Creek (Queensland) and the Mole River (New South Wales) and construction of further weirs on the Border Rivers and regulators on effluents of the Border Rivers and works for improvement of flow in streams which intersect the Queensland-New South Wales border west of Mungindi.

Glenlyon Dam on Pike Creek with a storage capacity of 261,000 megalitres was completed in 1976 and seven regulators on the Balonne-Culgoa River System have been constructed.

During 1978–79, the two States approved works costing $63,000 to improve the frequency of flows in the Little Weir River. Works included a diversion channel 1.52 metres deep and 4.5 kilometres long together with a road culvert on the Talwood-Mungindi Road.

Snowy Mountains Hydro-electric Scheme

This scheme was set up in 1949 by the Snowy Mountains Hydro-electric Power Act. Its prime purpose was to generate large quantities of peak load power and, by diverting the southern-flowing Snowy River through trans-mountain tunnels, to augment the flow of the Murray and Murrumbidgee Rivers to permit continuing expansion of irrigation in the fertile river plains. All storage works are now completed.

Details of the diversions and associated power works, together with details of construction, are given in Chapter 18, Energy.

States and Territories

The foregoing text deals with water conservation and irrigation in Australia generally and with international, national and interstate aspects. The following survey covers the local pattern of water resources and the steps taken by the State Governments to bring about their development. In the various States, water policies tend to assume a distinctive and characteristic pattern closely allied with climatic conditions and specific local needs.

In Victoria, almost every form of water scheme is in operation. In New South Wales, major emphasis at present is on irrigation and stock development in the dry areas along the Murray and Murrumbidgee Rivers, though a substantial scheme of intensive irrigation is being conducted in the Murrumbidgee Irrigation Area. In Queensland, up to the present, the predominant emphasis has fallen on water (mainly underground sources) for stock and the development of small irrigation schemes in sub-humid and humid areas, principally to stabilise production of such crops as tobacco, sugar, cotton and pastures. Apart from regular irrigation practices along the Murray River, South Australian authorities are vitally concerned with reticulated supplies for rural areas and towns. Western Australia has developed unique rock catchments and piped supplies for agricultural areas and towns in dry districts. Tasmanian interest relates almost exclusively to hydro-electric generation. The Northern Territory is concerned primarily with water supplies for population centres and mining and pastoral industries.

New South Wales

Administration

The Water Resources Commission of New South Wales (formed in April 1976 by a reconstitution of the Water Conservation and Irrigation Commission) consists of three commissioners appointed by the Governor. The operations of the Commission cover water conservation, control of irrigation areas, the establishment, operation and maintenance of works for domestic and stock water supply, irrigation districts, flood control districts, sub-soil drainage districts, constitution of water trusts, the issue of licences for private irrigation, artesian and shallow boring, assistance under the provisions of the farm water supplies scheme, and river improvement works. An important function of the Commission is planning for the co-ordinated development and allocation of the State's water resources. This entails the assessment and projection of demand for all purposes and also involves the quantitative and qualitative assessment of the available resources. Another important planning function relates to flood plain management. The Water Resources Commission Act, 1976, has widened the initiatives which the Commission is able to take in the fields of flood plain management and flood mitigation management. The search for, and surveillance of, groundwater for water supply is another important planning activity.

Under the Water Act, 1912–1955 the right to the use and flow, and the control of water in all rivers and lakes which flow through, or past, or are situated within, the land of two or more occupiers, is vested in the Commission for the benefit of the Crown. A system of licences operates for the protection of private works of water conservation, irrigation, water supply, drainage and prevention of inundation.

For particulars of the New South Wales–Queensland Border Rivers Agreement ratified by Acts of both States in 1947, *see* page 395 of this chapter.

Schemes summarised

The bulk of irrigated land is along the Murray and its tributary, the Murrumbidgee. Smaller areas are served by the Wyangala Dam, Lake Cargelligo and Lake Brewster on the Lachlan (a tributary of the Murrumbidgee), by Glenbawn Dam on the Hunter River, by Keepit Dam on the Namoi River, by Burrendong Dam on the Macquarie River, by the Menindee Lakes Storage on the Darling River and by Copeton Dam on the Gwydir River. None of the other rivers is regulated by large head storages, though weirs and dams have been provided for town supplies, etc. in many places. In addition substantial use is made of artesian and sub-artesian water in pastoral areas.

New South Wales legislation provides for the constitution and control of various schemes having different characteristics and including irrigation areas, irrigation districts, water trust districts, flood control and irrigation districts, and river improvement districts. There are nine irrigation areas, although two of these, Yanco and Mirrool, are generally described under the one heading, namely, the Murrumbidgee Irrigation Area. Others are: Coomealla, Curlwaa, Hay, Tullakool, Buronga, Mallee Cliffs and Coleambally.

A detailed description of the Murrumbidgee Irrigation Area is contained in Year Book No. 61, pages 875–7. The Water Resources Commission controls land transactions and water supplies for the MIA, but has no jurisdiction over land transactions in neighbouring irrigation districts (although it is responsible for the operation and maintenance of the water supply in these areas). The other irrigation areas follow the same administrative pattern as the MIA.

Irrigation districts are set up under the Water Act, 1912–1955 for (*a*) domestic and stock water supply and (*b*) irrigation. The essential difference between an 'Area' and a 'District' is that, in the case of the former, all the land to be included in the area is acquired by the Crown and then subdivided into such number of separate holdings as may be determined. Within the District, however, existing ownership of land is not disturbed other than to acquire land required for water distribution works. Since the completion of the Hume Reservoir, several such districts have been established along the Murray to utilise the New South Wales share of the Storage. The schemes are based on 'extensive' irrigation, that is, water rights are allotted to holdings on the basis that only a portion of each holding will be irrigated, but additional water, when available, may be obtained by landholders. 'Water right' is the annual quantity that will cover 1 hectare to a depth of 100 mm.

The Irrigation Act, 1912–1966 provides for the constitution of Trust Districts for domestic and stock water and irrigation, and empowers the Commission to construct, acquire or utilise necessary works. When the works are completed, they are handed over to trustees to administer. The trustees are elected by the occupiers of the land and act with a representative of the Commission. They are empowered to levy and collect rates covering the cost of the works repayable to the Crown by instalments and also the cost of operation and maintenance of the works. The rates are struck according to the area of land which benefits.

Irrigation Trusts are established under the same Act and are administered by trustees in a similar way. There are seven of these trusts.

The Lowbidgee Flood Control and Irrigation District, the first of its kind, was constituted in 1945. Its purpose is to provide flood irrigation for pasture lands on the lower Murrumbidgee by water diverted from the Maude and Redbank Weirs. Another district, Medgun, near Moree in the north-west, is also in operation.

Future program

The program of development in hand includes the provision of additional dams, storages, weirs, flood mitigation and drainage schemes and stream clearing works. Copeton Dam on the Gwydir River and Brogo Dam on the Brogo River were completed in 1976, Chaffey Dam on the Peel River, Windamere Dam on the Cudgegong River, Cudal Dam on Boree Creek and Split Rock Dam on the Manilla River have either been commenced or authorised for early construction. An ongoing program of investigations is being carried out to identify desirable additional projects which should be considered for implementation as funds become available. Increasing attention is being given to efficiency of water use and to economic, social and environmental factors in water management policies.

Victoria

Administration

Victorian Governments have been active in the development of country water supplies since the 1860's when major works to supply the Bendigo goldfields were undertaken. Local trusts to construct and operate waterworks under Government supervision were provided for in the *Water Conservation Act* 1881. Development under the trust system was greatly stimulated by the *Irrigation Act* 1886, which provided for the construction of national headworks by the State, and vested in the Crown the right to the use and control of all surface waters. By 1900 there were 33 irrigation trusts and 18 other rural water supply trusts, but the system of local control was then breaking down under financial difficulties.

The *Water Act* 1905 established the State Rivers and Water Supply Commission to take over the Irrigation Trust districts (except the still-existing First Mildura Irrigation Trust) and to exercise the State's functions in the further control and development of surface waters outside the metropolis. The Commission now supervises all private diversions from streams and directly administers irrigation districts, rural waterworks and urban districts, flood protection districts and urban water supplies. It also supervises the activities of local urban water supply authorities, and local sewerage, river improvement and drainage authorities.

Works summarised

The State Rivers and Water Supply Commission's storages are augmented by Victoria's half share in River Murray Commission storages. Most of the water is for irrigation. However, about one quarter of irrigation production is from lands irrigated by 'private diverters', i.e., irrigators who are authorised to take water from streams, lakes, etc., but who do not come within the boundaries of an irrigation district.

Rural water supply systems

The principal irrigation systems in Victoria are:

- *Goulburn–Campaspe–Loddon.* The main storage is Lake Eildon with a capacity of 3,392 million cubic metres. The main products in these systems are dairy products, fruit, wool and fat lambs. Annual production of deciduous canning fruits in the eastern part of the system is about two-thirds of Australia's total.
- *Murray River System.* The Murray Valley Irrigation Area and the Torrumbarry Irrigation System are irrigated by water diverted at the Yarrawonga and Torrumbarry Weirs respectively. These areas are devoted mainly to dairying, fat lambs and canning fruit (Murray Valley) and dairying, fat lambs, vineyards, orchards and market gardens (Swan Hill). Downstream from Swan Hill, the Mildura Irrigation Trust and four Commission Districts are supplied by pumping and produce mainly dried vine fruit, citrus fruits, and table and wine grapes.

- *Southern Systems.* The Maffra-Sale-Central Gippsland district, supplied from the Macalister River and regulated by Lake Glenmaggie, is devoted mainly to dairying.
- *Werribee and Bacchus Marsh.* These districts produce fresh fruit, vegetables and dairy products mainly for the local domestic market. Irrigation is supplied from the Werribee River system which is regulated by three main storages, viz. Pykes Creek, Melton Reservoir and Lake Merrimu.
- *Wimmera-Mallee Domestic and Stock Supply System.* Storages in the Grampian Ranges ensure farm water supplies over the riverless pastoral and cereal lands to the Murray. Without this supply, occupation of the region would be extremely hazardous. There are small areas of irrigation supplied from this system near Horsham and Murtoa.

Future Programs

The Victorian Water Commission's six-year program of capital works for the period 1979-80 to 1984-85 continues to emphasise an increasing proportion of expenditure on urban water services, including waste water treatment and disposal; water quality and works to protect the water environment from the adverse effects of land and water use.

The program also reflects national policy in budgetary constraints on works programs in the public sector, and an increasing requirement for justifiable economic viability.

Major provisions in the program include—

- the commencement of four major water conservation dams for urban, industrial and irrigation supply;
- construction of further within-system storage in the Bendigo area and development of proposals to augment supply to Geelong;
- the construction of large trunk pipelines to augment supply to and to enhance the operating capabilities of the Mornington Peninsula water supply system;
- further development of country water supply and sewerage facilities;
- completion of saline groundwater interception works for the Sunraysia Area;
- commencement of further works to divert salt from drainage flows in the Kerang Region to evaporative areas;
- the continuation of surface drainage programs in the Northern Irrigation Districts

Queensland

Administration

The important primary industries of Queensland are subject to relatively frequent and serious losses by either drought or extensive flooding.

The right to the use and flow and to the control of water in watercourses, lakes, springs and artesian wells is vested in the Crown, and the Commissioner of Water Resources is authorised to take measures to conserve water and provide for its more equal distribution and beneficial use. Under the *Water Resources Act* 1978, he is required to (*a*) prepare a complete description of the natural water resources of the State, both surface and underground, (*b*) make and keep a record of all the natural water resources of the State, both surface and underground, (*c*) evaluate the present and future water requirements in the State, (*d*) plan the development of the water of the State, (*e*) take such steps as he thinks fit to protect the water resources of the State from anything detrimental to their quality or that results in or is likely to result in a diminution in their quantity, (*f*) investigate and survey any natural water resource, surface or underground, (*g*) co-ordinate the investigation, evaluation and development of plans for control of flood waters and mitigation of flood damage, (*h*) construct works for the conservation, replenishment, utilization or distribution of the waters of the State, (*i*) manage water conservation, water supply and irrigation undertakings established under any Act of the State. As required under the *Water Act* 1926-79, and the *Irrigation Act* 1922-1979, rights to underground and surface water are allocated and their use is controlled by a system of licensing of all artesian bores and sub-artesian bores in areas proclaimed by the Governor in Council and all conservation and use (other than for stock and domestic supplies) of flow in watercourses. The Commission is required to control use to share supplies as equitably as possible in periods of shortage of supply.

The Commissioner is required to prepare a co-ordinated program of work for the conservation, utilisation and distribution of water resources, and to make recommendations to the Government regarding the carrying out of works in this program. He is principally responsible for water conservation and supply works for rural purposes, including irrigation, stock and domestic supply. In planning such storages, economies to all users are accrued by providing, where possible, for dual or multi-purpose use of works for irrigation, rural, urban and industrial uses including power generation and mining purposes.

Summary of schemes

Unlike other States, the greater part of the area irrigated in Queensland is by individual private pumping plants taking supply from streams or underground sources, spread widely through the State, rather than in constituted irrigation areas where supply is provided by channel systems delivering water to farms. Because of the predominance of irrigation by private diversion pumping, most of the storages are used to release water downstream to maintain supplies for such purposes. In 1977–78 a total of some 235,000 hectares were irrigated.

SOURCES OF IRRIGATION WATER, 1976-77

Source of supply	*Area irrigated*	*Percentage of total area irrigated*
	('000 hectares)	%
Underground supplies(*a*)	113.6	54
Surface supplies—		
State irrigation schemes	32.1	15
Rivers, creeks, lakes etc.(*b*)	47.1	22
Farm dams	16.7	8
Total	*95.9*	*45*
Town or country reticulated water supply	0.1	. .
Total, all sources	**209.6**	**100**

(*a*) Naturally or artificially replenished. (*b*) Includes regulated and unregulated streams.

Irrigation areas

About 20 per cent of the area under irrigation annually, ie some 46,000 hectares, is concentrated in six established Irrigation Areas constituted under the *Irrigation Act* 1922–1979, where the supply is generally reticulated by channel systems (by means of gravity or by pumping) from the storage. In addition, some supply is also provided from streams regulated by the storage. A summary is set out below; further details are shown on page 883 of Year Book No. 61.

Irrigation areas	*Comments*
Dawson Valley	Around Theodore on Dawson River; cotton, graincrops and urban usage in Theodore and Moura.
Burdekin River	Complex system of conservation, irrigation, industrial and other uses; sugar cane, rice, seed and small crops; artificial recharging of underground water supplies from unregulated flows (Burdekin River)
Mareebah-Dimbulah	Hinterland of Cairns; tobacco, rice, peanuts and urban/hydro-electric uses.
St George	Balonne River; cotton, soya beans and cereals, and urban uses.
Emerald	Joint Federal-State undertaking based on State's largest storage—Fairbairn Dam; industrial and urban use, irrigation of cotton, soya beans and cereals.
Bundaberg	Joint Federal-State undertaking; sugar, tobacco and small crops and urban supplies for Bundaberg and adjacent shires.
Eton (New)	Hinterland of Mackay; sugar cane and water supply in Mackay area—in early stage of development—no irrigation yet.

A number of other schemes have been established under the *Water Act* 1926–1979, where water from storage is released downstream to maintain adequate supplies for pumping under licence to adjacent lands. Details on these and others currently under construction are in Year Book No. 61, pages 883–4.

Rural, stock and domestic supplies

Improvements to stock and domestic water supplies are assisted by Rural Water Supply Schemes and Bore Water Supply Areas (constituted under the Water Act). Investigation, design and administration of these schemes are carried out by the Water Resources Commission.

Underground water supplies

The availability of underground water, particularly the Great Artesian Basin, has played a major part in the development of the pastoral industry in Queensland. Underground water is also used extensively for irrigation on individual farms, particularly along the coastal fringe, and for domestic purposes. Over half the area irrigated in Queensland receives its supplies from underground sources. In accordance with the requirements of the *Water Resources Administration Act* 1978, the investigation of availability of underground water is being pursued by geological mapping, investigation drilling and hydro-geological assessment. The most important areas where water from this source is used for irrigation are the Burdekin Delta, Condamine Valley, Bundaberg, Lockyer Valley, Callide Valley and Pioneer Valley. The table on page 388 of this chapter provides the quantity and purpose of groundwater usage in these areas.

South Australia

Administration

All major water resources and most public water supply schemes in South Australia are administered by the Engineering and Water Supply Department under the various statutes mentioned below.

- The Waterworks Act, 1932–1977, which empowers the Minister of Water Resources to impound or divert the water from any lake, watercourse or underground source for the purpose of establishing and maintaining public water supply schemes to serve proclaimed water districts throughout the State.
- The Water Conservation Act, 1936–1972, which relates to the provision of small dams, wells, bores and other waterworks to assist development in the more remote areas of the State or to provide water for travellers and travelling stock in such areas.
- The River Murray Waters Act, 1935–1971, which ratifies the River Murray Waters Agreement, and under which the Engineering and Water Supply Department operates and maintains Lake Victoria storage, nine weirs and locks downstream of Wentworth, N.S.W., and barrages at the river mouth.
- The Water Resources Act, 1976–79, which came into force from 1 July, 1976 and superseded the Control of Waters Act, 1919 and the Underground Waters Preservation Act, 1969, represents the culmination of the development of the Government's water resources policy involving the management of all aspects of water—surface and underground, quality and quantity. The Act provides for the control of diversions of surface waters from Proclaimed Watercourses and for the control of the withdrawal of underground waters from Proclaimed Regions. Currently, the River Murray and Little Para River are Proclaimed Watercourses, the Proclaimed Regions being the Northern Adelaide Plains and Padthaway areas. The legislation provides for control over the construction or modification of most categories of wells over the whole State and for the abatement of pollution of all waters. It establishes a South Australian Water Resources Council and Regional Advisory Committees as vehicles for public participation in the water resources management process. Currently, Regional Committees operate in respect of the River Murray, the Northern Adelaide Plains and Little Para River, Padthaway, the North Para River, and the Arid Areas. In addition, the Act provides for a Water Resources Appeal Tribunal to give individuals the opportunity to appeal against decisions of the Minister pursuant to the Act.

Summary of schemes

Australian irrigation originated in the upper Murray in South Australia and the Mildura area of Victoria. South Australian irrigation commenced with an agreement involving the Chaffey brothers in 1887 whereby an area was made available for the establishment of certain irrigation works at Renmark. From this start, government, co-operative and private irrigation areas totalling more than 42,000 hectares have been developed in the South Australian section of the Murray Valley. The authority controlling River Murray irrigation is the Engineering and Water Supply Department which operates under policies determined by the Minister of Water Resources on advice of the S.A. Water Resources Council. The principal high land crops comprise citrus and stone fruits, and vines. The reclaimed swamps along the lower section of the Murray are used almost exclusively for pasture and fodder crops. Vegetable crops of various kinds are important in both types of irrigated lands.

Except for quantities held in various lock pools and natural lakes, no water from the Murray is stored within South Australia for irrigation purposes. Usage of the River is therefore planned on the basis of the minimum monthly flows to which South Australia is entitled under the River Murray Waters Agreement. This factor, plus the need to reserve water for city, town and rural water supply systems, has resulted in the expansion of irrigation from the River being rigidly controlled by the

Government. In addition to irrigation from the River Murray there are considerable areas irrigated from underground sources by individual landholders in South Australia. The most important of these areas are the North Adelaide Plains (market gardens) and the Padthaway district of the south-eastern region (pastures, fodder, seed crops and vines).

Adelaide Metropolitan Water Supply

In 1978–79, River Murray pipelines supplied 36 per cent of the total intake to the Metropolitan Adelaide Water Supply System. A maximum of 83 per cent was reached in 1977–78. The principal sources of supply for the ten storages in the Mt Lofty Ranges are the Rivers Onkaparinga, Torrens, South Para, Myponga and Little Para.

Country reticulation supplies

A number of reservoirs in the Barossa Ranges and other local sources are augmented by the Morgan-Whyalla, Swan Reach-Stockwell and Tailem Bend-Keith pipelines which provide River Murray water to extensive country areas. A network of branch mains provides the means of conveying water to numerous towns and large areas of farmlands.

Surface and underground resources have been developed to supply most country centres not covered by the larger schemes. Victor Harbor and adjoining south coast resort centres are supplied from reservoirs and the River Murray. A reservoir on Kangaroo Island supplies Kingscote and adjacent farmlands. Underground resources of the lower south-east supply all towns in the region, the city of Mount Gambier and nearby farmlands being reticulated from the well-known Blue Lake. At the far northern opal mining town of Coober Pedy a reverse osmosis desalination plant provides a potable supply from brackish groundwater. Other centres in the far north obtain supplies from the Great Artesian Basin. For details on underground water resources in South Australia see Year Book No. 55 and earlier years.

South-eastern drainage

A section of the South-East Coast Drainage Division extends into South Australia but has no co-ordinated drainage pattern to form a significant surface water resource. However, high rainfall in the area is related to underground resources. Surplus water is not easily disposed of in the valleys and low range terrain, so drainage systems have been undertaken by the Government in co-operation with landholders. For further details see Year Book No. 61, pages 888–9.

Murray River Irrigation Areas

Where irrigation water in excess of plant requirements has been applied, perched water tables develop. Rising to the level of tree roots, these cause the death of orchards from salination and waterlogging. Most orchards and vineyards are now drained by plastic and tile drainage systems, thus restoring their health and productivity. At present, disposal of drainage water is achieved by pumping to basins on river flats where it evaporates or is discharged into the river when it is in flood. It may also be discharged into underlying sand and limestone aquifers. The usefulness of these aquifers is declining as they are becoming fully charged with water.

As a result of investigations made into alternative disposal schemes, a package of six salinity control measures has been recommended. The measures combine engineering works, improved irrigation practices, and river regulation to reduce salinity to acceptable levels.

Western Australia

Administration

The Minister for Water Supply, Sewerage and Drainage administers the departmental irrigation schemes under the *Rights in Water and Irrigation Act, 1914–1971*. He is advised by an Irrigation Commission representing the local irrigationists and government, technical and financial branches. He also administers, under the *Country Areas Water Supply Act, 1947–1964*, the water supplies to certain country towns and reticulated farmland. As Minister for Works he controls minor non-revenue producing supplies to stock routes and a few mines and agricultural areas with their associated communities. A small number of town supplies are administered by local boards under the *Water Boards Act, 1904–1969*, which provides a large degree of autonomy with ultimate Ministerial control.

Irrigation

Irrigation schemes have been established by the Government on the coastal plain south of Perth in the Waroona, Harvey and Collie River and Preston Valley Irrigation Districts between Waroona and Donnybrook, the water being channelled from dams in the adjacent Darling Range. The success of dairying and stock raising and, to a lesser extent, vegetable growing, which have replaced citrus growing, has led to a gradual but substantial extension of irrigation areas in the south-west.

Although not yet comparable in size with the south-west irrigation districts, the irrigation areas at Carnarvon and on the Ord and Fitzroy Rivers in the Timor Sea Drainage Division in the north of the State are of increasing significance.

Since the mid 1930s, a centre of tropical agriculture has been developed at Carnarvon, near the mouth of the Gascoyne River. Private pumping from sands of the Gascoyne River is the principal source of irrigation water for the 167 plantations. Because of the high risk of drawing in surrounding saline ground waters by over-pumping, the usage of water by the planters is controlled strictly by the Government. The Government has developed up-river sources and delivers water by pipeline to 163 plantations in the district. Bananas for the Perth market and fruit and vegetables for the Perth and Adelaide markets are the principal crops. A tropical research station is maintained at Carnarvon by the Department of Agriculture.

The Ord River Irrigation Project in the Kimberley Division provides for the eventual development of an irrigation area of 72,000 hectares of land, one third of which is in the Northern Territory. The first stage, in which water was supplied from the Kununurra Diversion Dam (capacity 98.7 mil. cubic metres) to 30 farms averaging 270 hectares plus a 970 hectare pilot farm was completed in 1965. Cotton was the principal crop, with grain sorghum and fodders for cattle fattening also important. Completion in 1971 of the Ord River Dam, which stores 5,720 mil. cubic metres in Lake Argyle, has allowed expansion of the area to be irrigated into the second stage. Five farms averaging 388 hectares were allocated in 1973. Since then, cotton has been phased out due to high off-farm costs and increasing costs of insect control specific to the cotton industry. A downturn in the Australian beef industry coincided with this and farming activity was reduced. Rice, sunflower and grain sorghum are now showing promise commercially.

The Camballin Irrigation District on the Fitzroy River flood plain in the West Kimberleys is dependent on diverted river flows and a small volume of storage behind the diversion structures on the Fitzroy River and Uralla Creek. Grain and fodder sorghums are the main crops, but there has been little activity in cropping in recent years.

Country water supplies controlled by Department of Public Works

Since 1947 enlargement and extensions of the Goldfields and Agricultural Water Supply and the development of the Great Southern Towns Water Supply have been carried out, mainly in accordance with a project known as the Modified Comprehensive Scheme. Under this scheme water has been supplied to towns and farms in the cereal and sheep districts of the State. Two years after the completion of the 1.7 million hectare scheme in 1961, an extension of 1.5 million hectares was agreed to with Federal-State funding.

Goldfields and Agricultural Water Supply

Water for the Eastern Goldfields is supplied by pipeline from Mundaring Reservoir in the Darling Range. With extension to towns and agricultural areas, the scheme now serves over 110 towns and localities and the water is being reticulated to 2.7 million hectares of farmland.

Great Southern Towns Water Supply

This scheme provides water to towns and localities from Wellington Dam to Narrogin and along the Great Southern Railway from Brookton to Tambellup, supplying 35 towns and localities and being reticulated to 0.6 million hectares of farmland.

Local and Regional Water Supplies

As well as the two major water supply schemes, above, water is also supplied by the Government to 35 towns from Regional Water Supply schemes and to 129 towns from local water supplies from a variety of sources including underground, artificial catchments and stream flow.

Underground water

Considerable use is made of groundwater by individual farmers, pastoralists, market gardeners and others, although the water quality varies from place to place and much of it is too saline for irrigation or even stock purposes. Artesian wells throughout the State and non-artesian wells within 'declared' areas must be licensed under the *Rights in Water and Irrigation Act, 1914–1971.* Industries also use groundwater in substantial quantities, especially in the processing of titanium, iron and alumina, and this demand has intensified the search for groundwater.

Tasmania

Main purposes of water conservation and utilisation

Because of the generally more adequate rainfall in Tasmania, scarcity of water is not such a problem as it is in most mainland areas, though not all streams are permanently flowing. The only large-scale conservation by reservoirs is for hydro-electric power generation, but there are some moderately-sized dams built by mining and industrial interests and by municipal authorities for town water supplies. 'Run of the river' schemes are quite adequate for assured supply in many municipalities. The main supply for Hobart and adjacent municipalities originates from a 'run of the river' scheme based on the Derwent River. The river is controlled in its upper reaches by eight dams, built for hydro-electric power generation, and these tend to stabilise river flow.

Until a few years ago irrigated areas were negligible except for long established hop fields, but there is a rapidly expanding use of spray irrigation on orchards, pastures, potatoes, beans and peas. Until recent years there has been almost complete dependence on natural stream flows, but the need for some regulating storages has become apparent. Increasingly, farmers are constructing storages of their own and the extension of this practice is foreseen as the logical solution in most areas, as valleys are narrow and steep sided. Single large reservoirs cannot economically serve large areas of suitable land, as nearly every valley is separated from others by pronounced hills, prohibiting the construction of cross-country channels.

Underground water suitable for stock, minor irrigation works and domestic use is exploited in the consolidated rocks of southern, midlands and north-western Tasmania. In the south and midlands, nearly all groundwater is obtained from Permian and Triassic rocks. In the north-west, water is recovered from a variety of rocks ranging from Precambrian dolomites, quartzites and schists to Tertiary basalts and Quaternary sands. The highest yields are obtained from the dolomites and the basalts. In the central north and north-east, unconsolidated Tertiary clays and gravels yield water of variable quality. In some coastal areas, notably King and Flinders Islands, water is obtained from aeolian sands.

The Mines Department is charged with the investigation of underground water resources. There is a great reserve of untapped permanent streams in the western half of the State, which is largely unsettled. The State's largest rivers discharge in the west, but diversion to the eastern half of the watersheds is not regarded as practicable. The Hydro-Electric Commission, however, has planned for the future development of four storage dams in the West Coast region on the Pieman, Murchison and Mackintosh Rivers.

Administration

In Tasmania, water supply was once exclusively the responsibility of local government authorities, but three statutory authorities, the Metropolitan Water Board, the Rivers and Water Supply Commission and the North West Regional Water Supply Authority, now operate bulk supply schemes, piping water for distribution by the local government authorities in the Hobart, Launceston and N.W. Coast regions, and directly to certain industrial consumers. The Board is responsible for the supply of water in the Hobart, Clarence, Glenorchy and Kingborough local government areas, while the Commission exercises a general control over the utilisation of the State's water resources and has specific functions in relation to local government authority water, sewerage and drainage schemes. The Authority controls the supply of water to the municipalities of Circular Head, Wynyard, Penguin, Ulverstone, Devonport, Latrobe and Kentish.

Rivers and Water Supply Commission. The Commission is empowered by the *Water Act* 1957 to take water at streams and lakes, or to issue others with licences to do so; licensing covers supply to specific industries and municipalities as well as for irrigation. The Commission is concerned with drainage trusts' operations, river improvements (including repairs after flood damage), stream gauging, its own regional water schemes, and with water supply, sewerage and drainage of towns. It operates in a similar manner to the Metropolitan Water Board in controlling the water schemes serving the East Tamar region (North Esk Regional Water Supply), the West Tamar area (West Tamar Water Supply) and the Prosser River Scheme, which was originally constructed to supply water to a sodium alginate industry at Louisville near Orford and to supplement the water supply of the township of Orford. The sodium alginate industry ceased production in December 1973. The North Esk Regional Water Supply was constructed to meet industrial requirements of the alumina refinery and other industries at Bell Bay, and to provide bulk supplies to surrounding municipalities on the eastern bank of the River Tamar and is now being augmented by a construction of a dam on the Curries River to supply the northern end of the Tamar Valley. The West Tamar Water Supply was constructed primarily to meet domestic requirements of urban areas in the Beaconsfield municipality. The local government authorities retain primary responsibility for reticulation and sale to consumers, except to certain industrial users.

In municipalities not serviced by the Metropolitan Water Board, the Rivers and Water Supply Commission or the North West Regional Water Supply Authority, the supply of water is a function of the local municipal council. Where the construction of water and sewerage schemes is beyond the financial capacity of a local government authority, or if it requires assistance to pay for water supplied from regional schemes, the Commission may make recommendations to the Minister for payment of a subsidy.

Irrigation

The Cressy-Longford Irrigation Scheme, officially opened in March 1974, was the first major irrigation project to be established in Tasmania. The source of supply is the tailrace of the Poatina hydro-electric power station from which up to 12 million cubic metres will be available to farmers both inside and outside the irrigation district. Some 9,000 hectares, half of which are watered by gravity, will eventually be irrigated. The scheme services about sixty-five farms within the irrigation district (mostly by the spray sprinkler system), while a further thirty farms on the fringes will benefit from augmented river flows.

The Cressy-Longford Scheme which is operated by the Rivers and Water Supply Commission, and a privately owned scheme at the Lawrenny estate at Ouse, are the only extensive irrigation works in Tasmania. A large portion of the 22,305 irrigated hectares in the State in 1975–76 were watered by private schemes pumping water from natural streams. Approximately 50 per cent of the area was sown and native pastures. Vegetables occupied about 30 per cent, with potatoes responding particularly well to irrigation.

Northern Territory

Information on climatic conditions can be found in the chapter Climate of Australia. A brief outline of contour and physical characteristics is in Chapter 27, The Territories of Australia.

Administration

Under the Northern Territory *Control of Waters Ordinance* 1938, control of natural waters is vested in the Crown. Where a watercourse or lake forms a boundary of any land alienated by the Crown, the beds and banks are deemed to remain the property of the Crown (except in special cases). The diversion of water is prohibited except under prescribed conditions. The Act requires that drilling for groundwater be carried out only by drillers who are registered under the Act. Registered drillers are required to provide the Government with information on bores drilled, including the location, depth and size of bore, strata encountered and water produced. In particular areas, described as Water Control Districts, where stricter control is necessary, the construction or use of a well or water bore without a permit can be prohibited.

Under the *Water Supplies Development Act* 1960, any landholder engaged in pastoral or agricultural production may seek information or advice from the Commissioner of Water Development who is appointed under the Act. He may also apply for an advance towards the cost of work proposed to be carried out. The Act also provides for a refund to the landholder of the cost of drilling an unsuccessful bore where the landholder has applied to the Commissioner for advice on its construction and has carried out all drilling operations in accordance with advice given.

The Water Division of the Department of Transport and Works carries out systematic stream gauging, the collection of data relating to the quantity and quality of surface and groundwater, the planning of water use for industrial, irrigation and town water supplies, and flood prevention and control. It also provides a general advisory service to the public on water resources and water conservation by providing information on the geology of the Territory, the prospects of obtaining groundwater, the possible location of bore sites, the method of drilling and equipping bores, stream flows, surveys of dam sites, the design of water supply schemes and reticulation lay-outs, and the chemical and bacteriological quality of water supplies. It is involved in water pollution studies and control, and carries out environmental assessments of water and related developments. The Division administers both of the acts described.

Underground water

For information on underground water resources in the Northern Territory *see* Year Book No. 55 and earlier issues, and the Australian Water Resources Council's publication, *Groundwater Resources of Australia,* 1972 and *Review of Australia's Water Resources,* 1975.

Of approximately 11,900 bores and wells registered in the Territory up to 30 June 1979, 52 per cent were for pastoral use, 13 per cent were investigation bores, 12 per cent served town and domestic supplies, 5 per cent were for crop use, 3 per cent were used on mining fields, and the remainder for various other uses.

Community water supplies

The largest water conservation projects in the Territory are the Darwin River Dam (259.0 million cubic metres) and the Manton Dam (15.7 million cubic metres) which both serve Darwin with a reticulated water supply. Groundwater from McMinns Lagoon area can be used to augment supply.

Most other towns and communities, including Alice Springs, Tennant Creek, Katherine and Nhulunbuy, are supplied from groundwater.

Investigations are continuing into groundwater supplies for the new township to be built in the Alligator Rivers Region, aboriginal communities and irrigation supplies in the Alice Springs District.

Surface water measurement

The hydrological investigations required in the Northern Territory as part of the National Water Resources Assessment Program are being carried out by the Water Division. The program for the Northern Territory includes establishment of base streamgauging stations and pluviographs (automatic rainfall recorders). In particular areas of development where water supply or irrigation proposals require special or extra surface water data, supplementary gauging stations are built to obtain this information. Intensive studies are being undertaken in the Alligator Rivers Region and other mining areas for the collection of both quantitative and qualitative data for environmental and management purposes. The streamgauging network of the Division comprises gauging stations (base gauging and supplementary) and pluviographs. Several other organisations also operate gauging stations and pluviographs in the Northern Territory.

Irrigation for agricultural purposes in the Territory is not extensive, being confined to isolated locations near Darwin, Adelaide River, Coomalie Creek, Daly River, Katherine, Douglas River, Ti Tree and Alice Springs for the purpose of growing fruit, vegetables, fodder crops, pastures and some dairying. Some of this irrigation is carried out using bore water.

Both the Daly and Adelaide Rivers offer considerable potential for the development of either irrigation as hydroelectric schemes if these rivers were regulated. Investigations are being conducted into possible dam sites, agricultural surveys having already been conducted in these regions. There is increasing demand for water resources assessment studies and assistance for relatively small irrigation projects, and for investigation and design of surface water storages for recreational uses, especially in the more arid regions.

Australian Capital Territory

The climate of the Australian Capital Territory is such that annual evaporation exceeds the annual rainfall of about 600 mm. Primary producers have therefore found it necessary to practise water conservation, and to irrigate from groundwater supplies during dry periods.

Surface water

Surface water storages supplying Canberra (population about 222,000) and the city of Queanbeyan (population about 21,000) are located to the south-west and south-east. The storages to the south-west are in the heavily timbered, mountainous Cotter River catchment within the A.C.T., the storages being Corin Dam (75.5 million cubic metres), Bendora Dam (10.7 million cubic metres) and Cotter Dam (4.7 million cubic metres). These storages, can serve a population of 225,000. The storage to the south-east is in New South Wales in the Queanbeyan River catchment on the western slopes of the Great Dividing Range, the storage being Googong Dam (124 million cubic metres). This storage was only recently commissioned and can serve 70,000 people with the current trunk mains and distribution system.

The existing storages on the Cotter and Queanbeyan River have an ultimate combined capacity to serve 450,000 persons. The remaining water resource with the A.C.T. is the Gudgenby River which is at present not utilised but has the potential to serve approximately 200,000 persons.

The A.C.T. water supply system is operated by the Department of Housing and Construction. This Department operates a network of stream gauging stations in the A.C.T. to monitor surface water resources. A number of the gauging stations are provided with telemeters which enable the Department to provide a flood warning system in association with the Bureau of Meteorology.

Groundwater

Groundwater in the A.C.T. and environs occurs mainly in fractures in crystalline rock such as granite and volcanic rocks; in folded and fractured slate; and rarely, in solution cavities in limestone. Alluvial aquifers of significance are restricted to the Lake George basin and small areas along mature sections of the Molonglo and Murrumbidgee Rivers. Groundwater has been used in the past by most primary producers to augment surface storage. Groundwater production bores in the A.C.T. have yields ranging between about 0.4 and 20 cubic metres per hour; 3 cubic metres per hour is about the average yield. However, many farm bores have fallen into disuse as a result of the Government's resumption of freehold land within the A.C.T., and because of the rapid expansion of urban growth. The Bureau of Mineral Resources has provided a bore-siting, groundwater-quality and yield-prediction service in the A.C.T. since the early 1950's and until 1978 maintained a network of 48 observation bores which were monitored regularly for up to 25 years. Emphasis has shifted recently from predicting groundwater levels for rural landholders, to trying to establish the groundwater resources that are available for augmenting surface water supplies for urban purposes. The Bureau assessed the feasibility of a groundwater supply for the new National Fitness Camp at Tidbinbilla and also supervised drilling and testing of production bores for the $500,000 camp. Data are now being collected on groundwater occurrences within the A.C.T. and environs for preparation by the Bureau of a 1:100,000 scale hydrogeologic map.

Many bores have been drilled in the Canberra area for determination of ground conditions for specific projects such as dam sites, sewer tunnels, deep foundations for large buildings; disposal of household and industrial wastes, including radioisotopes; monitoring hydrocarbons, pollution of groundwater or for feasibility studies for urban development. These bores are generally monitored for short periods only. Long-term monitoring of water infiltrating from refuse-disposal areas commenced in 1977.

Control of irrigation and farm water supplies is exercised by the Conservation and Agriculture Branch of the Department of the Capital Territory. The Bureau of Mineral Resources of the Department of National Development provides technical advice to landholders and drilling contractors on groundwater and, occasionally, on runoff.

CHAPTER 16

MINERAL INDUSTRY

CHAPTER 16

MINERAL INDUSTRY

GENERAL

Geology and mineral resources

General geology

Most of the western and central part of the Australian continent consists of basement rocks of Precambrian age. Younger Palaeozoic rocks, mostly of geosynclinal origin, form a discontinuous belt several hundred miles wide extending from north Queensland to Tasmania. Mesozoic platform sediments form a broad zone separating the Palaeozoic and Precambrian rocks and extending from the Gulf of Carpentaria to central New South Wales. Cainozoic rocks occur mainly in Victoria, south-western New South Wales and southern South Australia, and as residual basalt cappings over extensive areas of the Palaeozoic rocks of eastern Australia.

Economic geology

Minerals of economic significance occur widely throughout the Precambrian and Palaeozoic rocks of the continent. Palaeozoic mineralisation is perhaps more varied, but the Palaeozoic deposits now being worked are in general smaller than those found in Precambrian rocks. Most of Australia's metallic mineral deposits occur within two broad regions: one of Precambrian rocks in the west and central areas of the continent; and one of younger Palaeozoic rocks in the east.

Mineral resources

Australia is self-sufficient in most minerals of economic importance (and much more than self-sufficient in some). Known adequate reserves of minerals with production sufficient for domestic demand and exports include aluminium (bauxite), black coal, copper, gold, iron ore, lead, natural gas, nickel, salt, silver, tin, tungsten and zinc. Adequate reserves sufficient for domestic demand include clays (except light grade china clay), brown coal, dolomite and felspar.

For further details of principal Australian mineral deposits, and notes on principal mineral resources, *see* Year Book No. 61, pages 925–932.

Administration

All mineral rights in Australia are vested in the Crown except those on land which was granted before the Crown began to reserve mineral rights. In practice, these private mineral rights are important only in the New South Wales coalfields. In the States, these rights are held by the State Governments and in the Territories of the Commonwealth they are vested in the Commonwealth Government. The Commonwealth Government is able also to influence over-all development and production activity in the mineral industry by virtue of its statutory powers with respect to international trade, customs and excise, taxation, and loan raisings. Certain specially-formed bodies such as the Joint Coal Board and the Australian Atomic Energy Commission have been given administrative responsibility in defined areas.

Control of mining

Each State or Territory has its own mining Acts or Ordinances and regulations governing the prospecting for and working of mineral deposits. These Acts, etc., are similar in principle but different in detail. They all make provision for a miner's right to prospect and for small mining leases for mineral production. The principles embodied were established many years ago when mining operations were generally small scale and labour-intensive. Although amendments have been enacted to modernise the legislation, it is generally inadequate for the large-scale capital-intensive operations often involved with modern mineral development. For this reason a large enterprise may take the course of acquiring mining titles by negotiations with the appropriate Minister for Mines and having the agreed terms and conditions embodied in an Act of the State Parliament. This method of acquisition has been used in several cases where the leasing company undertook an obligation (such as the erection of a large treatment works) in return for leases over large areas for a long period, and has become more common in recent years (e.g. iron ore in Western Australia, coal and bauxite in Queensland, bauxite in the Northern Territory). Mining legislation enacted in recent years is simpler and more suited to modern conditions.

Control of mineral exploration

This section refers in general to the exploration for all types of mineral deposits in Australia. Additional information relating to the search for petroleum is set out in the following section.

As a result of the introduction of large-scale modern prospecting methods (particularly airborne prospecting), the small prospecting areas referred to in the previous section were found to be unsuitable in some instances, and steps have been taken in the States and Territories to ensure the availability of large areas for prospecting by interested persons. Large areas may be made available by provision within the Mining Acts or Ordinances for the issue of authorities to prospect over an area defined by a written agreement which also sets out provisions as to the amount of money to be spent, methods of prospecting, tenure of the agreement, etc.

The tenure of such areas is limited (usually to one or two years only) and, if renewed for a further period, is only over an area selected from the larger area (usually 50 per cent) as a result of work done during the life of the initial agreement. It does not give the holder any rights over, or authority to prospect on, land already held under a mining title within the agreed area. Unless specifically stated in an agreement, the discovery of minerals, whether inside or outside an area covered by an authority to prospect, gives the discoverer no legal rights except the right to apply for a mining lease over the area in which the discovery was made. Suitable prospects are converted to mining tenements by making application for lease under the appropriate mining Act.

Control of petroleum exploration

On-shore. In Australia, all petroleum is the property of the Crown. Consequently, full control of petroleum mining rights is vested in the Government or Administration of each State or Territory. Any company, organisation or individual proposing to undertake petroleum exploration or development must first satisfy the Government concerned that the necessary financial and technological resources are available to carry out the operation.

There are three main types of petroleum title:

(*a*) the permit, covering initial geological, geophysical and exploration drilling;
(*b*) the licence (in Victoria only), which covers detailed surveys and drilling; and
(c) the lease, which covers development operations and production.

Off-shore. The *Sea and Submerged Lands Act* 1973 asserted Commonwealth sovereignty over the territorial sea and continental shelf. However, for the purpose of administering petroleum exploration in off-shore areas, complementary legislation was passed by the Commonwealth Government and each State Government in 1967 and the arrangements under this legislation are still applied. Thus the *Petroleum* (*Submerged Lands*) *Act* 1967 is the instrument whereby the control and safeguarding of the exploration and exploitation of petroleum resources on the territorial sea-bed and on the continental shelf are assured. Each State Government administers the Act in relation to its adjacent off-shore area, but refers certain matters to the Commonwealth Government. The Commonwealth Government has the administrative responsibility for the area adjacent to the Northern Territory. However, after 1 October 1978, certain administrative changes may be necessary in respect to the Designated Authority, but these changes will not affect the general administration of the Act.

The legislation provides for a two-stage system of titles: the exploration permit, which covers all forms of exploration including drilling; and the production licence, which covers development and exploration. Royalty is generally shared between State and Commonwealth Governments on a 60 : 40 basis; however, overriding royalty is payable to the State under certain conditions.

Mineral royalties

The collection by governments of royalties for the production of minerals within their area of authority is an internationally-accepted practice. In Australia, the responsibility for mineral royalties is largely a State concern, and all States currently collect some form of mineral royalty payments.

In recent years there has been an important basic change in the system of establishing royalty commitments, and it is now quite common for State Governments to negotiate special royalty rates with companies which are seeking mineral leases for large scale developments. These royalty rates may vary, depending on whether production is for export or for domestic processing. The rates for a particular mineral may also vary between producers. Important examples of this type of royalty agreement are the iron ore development agreements in Western Australia and coal development agreements in Queensland. Mineral royalties received by Governments in recent years are shown in the following table.

MINERAL ROYALTY RECEIPTS: GOVERNMENTS
($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
New South Wales(*a*)	9,592	13,496	37,864	32,660	46,354	49,062
Victoria(*b*)	18,025	23,922	26,657	29,893	32,696	48,446
Queensland(*a*)	3,525	4,319	34,867	36,753	50,842	53,651
South Australia	1,807	1,944	2,500	2,788	3,346	4,109
Western Australia	27,666	33,615	39,385	43,111	51,638	54,519
Tasmania	498	506	342	576	1,496	2,093
Northern Territory(*c*)	910	242	99	545	362	277
Commonwealth Government(*d*)	7,896	10,786	12,155	13,440	13,805	23,002
Total	**69,921**	**88,831**	**153,869**	**159,766**	**200,539**	**235,159**

(*a*) Includes royalty on sand and gravel from Crown lands. (*b*) Includes royalty on brown coal paid by State Electricity Commission. (*c*) Excludes Aboriginal Benefits Trust Fund royalties from mining operations for which details are not available. (*d*) Includes royalties received under the *Petroleum (Submerged Lands) (Royalty) Act* 1967.

Control of Exports

The Commonwealth Government has constitutional power over exports from Australia. Under the Customs (Prohibited Exports) Regulations exports of certain raw or semi processed minerals are prohibited unless permission is granted by the Minister for Trade and Resources or an authorised person.

The fundamental objectives of the controls are:

(i) to protect the national interest and ensure fair and reasonable market prices are achieved;
(ii) to ensure adequate supplies are available to domestic industry;
(iii) to meet international and strategic obligations.

Export controls are administered on coal, iron ore, bauxite, alumina, petroleum and petroleum products, copper, tin, uranium and other materials of atomic significance; salt, and mineral sands. With regard to mineral sands, approvals to export are freely issued except where the Commonwealth considers there are environmental reasons which would make such exports undesirable.

Ores, concentrates, oxides, etc. of nickel, lead, zinc, manganese, tungsten, scheelite, wolfram and bismuth are subject to blanket approvals. All other minerals were removed from control on 12 June 1979.

Joint Coal Board

The Joint Coal Board was established in 1946 under joint legislation of the Commonwealth Government and of the State of New South Wales to carry out special administrative functions in regard to the New South Wales black coal mining industry. In summary, the Board's functions are:

(i) to ensure that coal is produced in the State of New South Wales in such quantities and with such regularity as will meet requirements throughout Australia and in trade with other countries;
(ii) to ensure that the coal resources of the State are conserved, developed, worked and used to the best advantage in the public interest;
(iii) to ensure that coal produced in the State is distributed and used in such manner, quantities, classes and grades, and at such prices as are calculated best to serve the public interest and secure the economical use of coal and the maintenance of essential services and industrial activities; and
(iv) to promote the welfare of workers engaged in the coal industry in the State.

Queensland Coal Board

The Queensland Coal Board has functions similar to those of the Joint Coal Board. It also carries out research and sampling tests of Queensland coals. It makes funds available to colliery proprietors for equipment and makes grants and/or loans for the provision of amenities for employees and for communities in coal mining districts. The price fixing of coal sold within Queensland is another important function.

Australian Atomic Energy Commission

For details of the functions of the Australian Atomic Energy Commission *see* Chapter 18, Energy.

Government assistance

The Commonwealth Government and the various State Governments provide assistance to the mineral industry in a variety of ways. The main forms of assistance are discussed on the following pages.

Commonwealth Government assistance

Assistance provided by the Commonwealth Government takes the form of income taxation concessions, subsidies, bounties, and technical assistance, mainly through the work of the Bureau of Mineral Resources (BMR) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Income taxation concessions. Income derived from mining principally for gold in Australia is exempt from tax. The exemption is also available in respect of income derived from mining principally for gold and copper if the value of the gold obtained is not less than 40 per cent of the value of the total output.

Special deductions for capital expenditure incurred in the discovery and mining of petroleum (including natural gas) are allowable to a petroleum mining enterprise engaged in these operations in Australia. Capital expenditure allowable to petroleum mining enterprises includes, broadly, the costs of exploratory surveys, drilling and well-head plant; plant for the liquefaction of natural gas; and of access roads and expenditure on housing and welfare. The enterprise is entitled to these special deductions against income from any source. While the special deductions for exploration expenditure are deductible immediately against the net income of the enterprise, the deductions for capital expenditure on development are allowable over the life of the oil or gas field or over five years, whichever is less on a reducing balance basis.

An enterprise mining or prospecting for minerals other than petroleum and gold may also be allowed special deductions for capital expenditure. Broadly, allowable capital expenditure includes expenditure on exploration and prospecting; preparation of a site for extractive mining operations; buildings; other improvements and plant necessary for those operations; access roads; certain treatment plant; and housing and welfare.

The allowable capital expenditure of a general mining enterprise, other than costs of exploration, may be deducted against income from any source over the life of the mine, or over five years, whichever is the less. Expenditure incurred by a mining enterprise in exploring for general minerals is allowable as an immediate deduction against net income derived from mining operations. Annual deductions for depreciation on petroleum mining plant or general mining plant may be allowed in lieu of spreading the cost over the life of the oil field or mine. The cost of exploration plant may also be deducted under the depreciation provisions of the law. The investment allowance scheme may permit a deduction at the rate of 40 per cent of the cost of certain new plant in its initial phase, or at 20 per cent in its second phase.

Special deductions are allowable for capital expenditure incurred on certain transport facilities used primarily and principally in relation to minerals mined in Australia for the transport of raw minerals and certain specified products obtained from the processing of such minerals, or for transporting petroleum between the oil or gas field and a refinery or other terminal. The special deduction applies to expenditure incurred on a railway, road, pipeline or similar transport facility and on certain port facilities or other facilities for ships. Allowable expenditure on transport facilities is deductible in equal annual instalments over a period of ten or twenty years at the option of the mining enterprise.

An income tax rebate of 30 cents for each dollar of share capital subscribed after 24 August 1977 is available to shareholders of petroleum mining companies exploring or mining for petroleum in off-shore areas of Australia where those companies lodge appropriate declarations with the Commisioner of Taxation in respect of the moneys subscribed. By lodging those declarations, certifying that the capital subscriptions have been, or will be, spent on eligible outgoings within a specified period, the petroleum mining companies forgo deductions to which they might otherwise be entitled for capital expenditure incurred in off-shore operations after 24 August 1977.

Petroleum search subsidy. The petroleum search subsidy scheme, introduced in 1957, was terminated on 30 June 1974. For details *see* Year Book No. 61, pages 936–7.

Pricing of Australian crude oil. In August 1977, the Commonwealth Government announced new arrangements in the pricing, allocating, and levying arrangements of crude oil. These will take the price of indigenous crude oil from presently known fields in the direction of import parity. This will be achieved through a uniform method of price determination. The new scheme, which took effect from 17 August 1977, applies to each known field in Australia.

Producers receive the import parity price for a specified part of their production. Import parity is received for either the first 6 million barrels of oil produced from each field per annum, or for a proportion of production per annum which will be increased over time according to a specified schedule, whichever is the greater in any particular case. The schedule is 10 per cent from 17 August 1977 until the end of the 1977–78 financial year, rising to 20 per cent for the financial year 1978–79, 35 per cent for 1979–80 and 50 per cent for 1980–81. The phasing-in will then continue only for fields producing less than 15 million barrels per annum. For all additional production from each field or new development, the producers receive the price which was current up to the time of the introduction of the new arrangements, i.e. $2.33 per barrel in the case of the Bass Strait fields, and $2.88 per barrel in the case of the Barrow Island field. All production from the Moonie and Alton fields and other small fields will, in practice, receive import parity prices, as the output from those fields is well below 6 million barrels per annum.

The Government will review the position before June 1981 to decide the rate at which the further progression to full import parity should take place for presently known fields. Oil from fields discovered after 14 September 1975 will continue to receive full import parity.

The import parity price will be set every six months by the Commonwealth Government and will be calculated on the basis of the price of Arabian light oil at the nearest refinery port, adjusted to allow for an appropriate quality differential. This differential will take account of the suitability of indigenous crude oil for the local market. For the period after 1 July 1979, the import parity price is set at $18.66 per barrel for Bass Strait crude oil, $18.84 for Barrow Island crude, and $19.71 for Moonie crude delivered to Westernport, Kwinana, and Brisbane/Roma respectively.

Payments to producers of phosphate fertilisers. The *Phosphate Fertilisers Bounty Act* 1963 provides for a bounty to be paid on phosphatic substances produced and sold in Australia as a fertiliser. Phosphatic substances used as a supplement to stock food are also regarded as being used as a fertiliser. Bounty is payable at the rate of $12 per tonne in respect of superphosphate where the available phosphorus content is not less than 8.5 per cent or more than 8.9 per cent by weight. Outside this range, bounty is payable at $138 per tonne of the available phosphorus content of the substance. The intention of the Act is to assist consumers of phosphate fertilisers (primary producers). The Act expires on 30 June 1982.

Bureau of Mineral Resources, Geology and Geophysics. The functions of the BMR are as follows:

(i) as a primary function, to obtain, study, publish and provide basic geological and geophysical information necessary for the exploration and development of the nation's mineral resources (this is to be done, where appropriate, in co-operation with State and Territorial authorities);

(ii) to undertake experimental studies and research into geology and geophysics in order to support the function of obtaining basic information;

(iii) to make basic investigations of the earth's magnetic and gravitational fields and in seismology and volcanology;

(iv) to complement the work of the State and Territorial authorities by undertaking geological and geophysical investigations into the occurrence and distribution of underground water;

(v) to undertake geological and geophysical investigations on behalf of other Commonwealth Government Departments and authorities including the provision of resident staff by arrangement with the Territories;

(vi) to obtain basic information on, and review the mineral resources of Australia and its Territories; to study the various sectors of the mineral industry both in the national and international spheres; and to publish and provide information about the mineral industry;

(vii) to undertake such investigations in mining engineering and petroleum technology as are relevant to (i) and (vi) above;

(viii) to prepare advice for Government on the mineral industry, including the exploration and development of mineral resources in the national interest;

(ix) when directed by Government, to administer schemes for the assistance of sectors of the mineral industry and to undertake special mineral projects.

The BMR comprises five branches under the Director: Operations, Mineral Resources, Geological, Geophysical, and Petroleum Exploration. The Operations Branch consists of five sections : Planning and Co-ordination, Publications and Information, Automatic Data Processing Applications, Cartography and Administrative. It carries out central office functions, including planning and control of program, assessment of results, co-ordination of activities, liaison, distribution of information and provision of ADP and cartographic services. The Mineral Resources Branch comprises the sections Mineral Economics and Mining Engineering and is concerned largely with those aspects of the BMR's work which involve studies of the mineral industry as a whole, including the assessment of Australia's mineral resources and the preparation of advice and reviews for the Government, industry and the public. The Geological and Geophysical Branches are responsible for the principal field activities of the BMR and the operation of observatories. The Petroleum Exploration Branch is concerned with the technical administration of the *Petroleum (Submerged Lands) Act* 1967, the assessment of sedimentary basins in Australia and its Territories, and monitors the level of petroleum exploration, development, and production activity and associated economic factors. At 30 June 1979, 501 officers were employed at the BMR, this included 225 professional officers (geologists, geophysicists, chemists, engineers and mineral economists).

The BMR maintains laboratories in Canberra engaged on geochemical, geochronological and petroleum technological studies and basic research into the design and testing of geophysical equipment. It also maintains geophysical observatories at Kowen Forest (Australian Capital Territory), Mundaring (Western Australia), Mawson (Antarctica), and Macquarie Island. The geophysical observatories are engaged in geomagnetic, ionospheric, and seismology research.

State Government assistance

In addition to free assays and determinations of rocks and minerals carried out for prospectors by the Mines Departments of the States and Territories, technical officers of these departments provide advice to the mining and allied industries where required, carry out field examinations of mining prospects, advise on exploration and development, select sites for water supply, and generally give a free technical service to the mining industry.

New South Wales. The Department of Mineral Resources and Development renders scientific, technical and financial assistance to the mining industry. Grants are made to cover up to half the cost of prospecting and drilling operations. These grants are repayable if sufficient payable minerals are discovered or if certain other conditions are met. A quantity of equipment is also available for hire in several localities. The Department has itself undertaken a program of contract drilling to investigate the existence of mineral deposits in the State (including the testing and proving of coal resources). Expenditure on exploration and prospecting in 1977–78 amounted to $687,644, including $303,530 on grants and $369,384 on the Department's own drilling program.

Victoria. The Department of Minerals and Energy comprises the following Divisions:—Administration, Energy, Geological Survey, Hazardous Materials, Oil and Gas, Mining. These divisions conduct geological and mineral surveys and produce geological maps, and issues scientific and technical reports thereon. Rotary, percussion and auger drilling operations are carried out and the results used in sedimentary basin studies and to evaluate petroleum, mineral and groundwater potential. A comprehensive library and a geological museum are maintained, and a core library retains cores and cuttings from drilling operations. The administration of petroleum, pipeline, mining and extractive industry legislation by the various Divisions of the Department ensures that petroleum exploration and production (both on-shore and off-shore), mining and quarrying are carried on in a safe and effective manner. Technical assistance and limited loans and grants are available for mineral exploration and prospecting and for approved development operations. Five stamp batteries located throughout the State provide an ore crushing service to enable test crushings to be made at nominal cost. Information is available on mining law and mineral statistics. Assays of ores, analytical services, advice on metallurgical treatments, industrial pollution and chemical problems are available, together with information on the manufacture, handling and use of explosives and inflammable liquids. Financial assistance is available to municipalities to reclaim mine-damaged land in areas where a reclamation committee recommends such action.

Queensland. The Department of Mines provides assistance to mining by way of geological services, grants for construction and maintenance of roads in mining areas, repayable advances or subsidies for mine development, hiring and equipment, and assistance to prospectors. The Department maintains a concentration plant for tin ores at Irvinebank, an assay office at Cloncurry and diamond drilling plants in various parts of the State. The Queensland Coal Board carries out research and sampling tests of Queensland coals. It also makes funds available to colliery proprietors for equipment and makes grants and/or loans for the provision of amenities for employees and for communities in coal mining districts.

South Australia. The Department of Mines and Energy provides the following services and facilities to the mineral industry in South Australia: geological surveys, geophysical surveys; geological maps and publications, mineral analyses and identification, analyses of underground water, mineral research, regulation and control of mining operations, regulation and control of petroleum operations, mines and allied works inspections, data storage and retrieval, minerals production statistics and royalty assessment, energy resource assessment, development and application.

Western Australia. Prospectors receive assistance of either $15 or $17.50 a week according to the prospecting locality. North of the 26th parallel and within a defined area south of this lying largely outside the agricultural areas, assistance is given to the extent of $17.50 a week. In the remainder of the State prospectors receive $15 a week. Provision is also made for the supply of some tools required for prospecting. There are fifteen State batteries operating intermittently throughout the goldfields for the treatment of ore from prospectors and small mine owners at a nominal charge. A cartage subsidy is also granted to such operators sending gold and lead ores to State batteries for treatment. Provision is made for loans to mine-owners who require assistance to develop mines.

Tasmania. The Department of Mines provides financial assistance to mining lessees for the purchase of plant and machinery; for sinking, repairing or de-watering of shafts; for construction of dams and water races; for testing and proving a deposit of any mining product; for developmental work; and for diamond and other types of drilling. The Department has available for hire percussion and diamond drills for exploration. Other assistance is rendered to the industry through geological and engineering advice, ore-dressing research into metallurgical recoveries, and the selection and design of treatment plant.

Northern Territory. To encourage the development of the mining industry the Department of Mines and Energy operates two batteries for the treatment of ores for miners. The Tennant Creek Battery is treating parcels of gold ore, while the Mount Wells Battery is crushing parcels of gold, tin, lead, copper and wolfram ore. Experimental work on more complex ores is carried out in Darwin. The crushing charges are subsidised by the Government. Mining plant such as drills, compressors, pumps, and small hoists are available for hire to prospectors. Financial assistance is available to prospectors for mine development such as shaft sinking, driving, rising or winzing, and for cartage subsidies. Roads and water supply services are provided and maintained for mines under active development throughout the Northern Territory.

The Northern Territory Geological Survey undertakes geological and geophysical investigations including engineering geology projects, and is also available to assist with the evaluation of individual mineral occurrences for prospectors and exploration companies. Technical libraries and collections of drill cores and cuttings are maintained in Darwin, Alice Springs and Tennant Creek.

Research

Research investigations into problems of exploration, mining, ore-dressing and metallurgy are conducted by Government bodies, by universities, by private enterprise, and by combined efforts of these bodies. A summary of their functions follows. (For further information on research *see* Chapter 25, Science and Technology).

Australian Atomic Energy Commission

For a more detailed description of the activities of the Australian Atomic Energy Commission *see* Chapter 18, Energy.

The Australian Mineral Development Laboratories

Technical consulting, contract research and process design for the mineral and associated industries is undertaken by The Australian Mineral Development Laboratories (Amdel) at Adelaide. This organisation is controlled by a council comprising representatives of the mineral industry, the South Australian Government and the Commonwealth Government. Extensive facilities are available in the fields of analytical chemistry, mineralogy, petrology, chemical metallurgy and mineral engineering, process instrumentation and control, water and waste water treatment and materials technology. Both long and short term applied research is carried out and all investigations are conducted on a strictly confidential basis. Services in the field of pollution and environmental control are also available through the Amdel group, Amdel (Aspect).

The Baas Becking Geobiological Research Laboratory

In 1965, the Baas Becking Geobiological Research Laboratory was established in the Bureau of Mineral Resources building in Canberra under the joint sponsorship of the Commonwealth Scientific and Industrial Research Organization, the Bureau of Mineral Resources, and the Australian Mineral Industries Research Association (*see* Research by private enterprise, page 416).

Much of the biological research has involved studies on the biology and biochemistry associated with mineralisation processes. The expertise gained is applied to *in situ* examinations of sulphide mineralisation in carbonate-rich sediments. On the geological side, research is co-ordinated with the field programs of the Bureau of Mineral Resources, and includes studies on the McArthur and Georgina Basins and the Adelaide Geosyncline.

Bureau of Mineral Resources, Geology and Geophysics

The Bureau of Mineral Resources is the largest geoscience research organisation in Australia. Its fundamental role is to obtain, study and publish information on the geological framework and mineral resources of the Australian continent, its Territories and offshore areas, as a basis for management and policy formulation at the national level, and for assistance to mineral exploration and development. The main effort is in field research supported and complemented by laboratory and office studies. The BMR's activities include:

- geological, geophysical, and geochemical surveys to provide the basic information for further studies;

- compilation, review, and synthesis of information on and detailed investigations of sedimentary basins and metallogenic provinces, leading to an understanding of their origin and history, and to assessment of their prospectiveness and resources;
- studies of specific commodities, including research into the occurrence and origin of their deposits, assessment of potential for new discoveries, resource inventories, and market trends;
- engineering geology, urban geology and hydrogeological investigations;
- maintenance of seismological and magnetic observatories, and related studies;
- assessment of geophysical techniques in Australian conditions and development of new techniques and equipment;
- fundamental geoscience research with an orientation to the activities listed above; and
- provision and dissemination of the results of BMR's work and information on the geosciences generally.

For details of the functions of the Bureau of Mineral Resources, Geology and Geophysics, *see* page 413.

Commonwealth Scientific and Industrial Research Organization

Mineral research by the Commonwealth Scientific and Industrial Research Organization (CSIRO) is undertaken mainly within the Institute of Earth Resources with the objective of contributing to the location, extraction and processing of minerals through development of procedures which are efficient and economic and involve safe working practices which do not impose irreparable damage on the environment. The Divisions and independent units of CSIRO that comprise the Institute of Earth Resources are the Division of Applied Geomechanics at Syndal (Vic.), the fuel Geoscience Unit at North Ryde (N.S.W.) the Division of Land Resources Management at Perth (W.A.); Division of Land Use Research at Canberra (A.C.T.), the Division of Mineral Chemistry at Clayton (Vic.), the Division of Mineralogy at Perth (W.A.) and North Ryde (N.S.W.), the Division of Mineral Physics at North Ryde (N.S.W.) and Port Melbourne (Vic.), the Physical Technology Unit at Chatswood (N.S.W.); the Division of Process Technology at North Ryde (N.S.W.) and the Division of Soils at Adelaide (S.A.).

Department of National Development and Energy

The National Coal Research Advisory Committee, established in December 1964, no longer exists as such but has been incorporated into the Energy Research and Development Division of the Department of National Development and Energy. For details of this Division's functions and those of the National Energy Advisory Committee (NEAC) which advises the Minister for National Development and Energy on matters relating to national energy policy *see* Chapter 18, Energy and Chapter 25, Science and Technology, respectively.

University Research

The various universities in Australia carry out research into various aspects of the mineral industry such as geology, ore mineralogy and genesis, mining techniques, mineral processing, extractive metallurgy, and materials and metals technology.

Research by private enterprise

Many of the large companies in the mineral industry conduct their own research in dealing with their particular Company's interests. In 1959 the major companies in the industry, formed the Australian Mineral Industries Research Association Limited to co-ordinate and manage sophisticated research programmes on a co-operative basis, carried out by the Australian Mineral Development Laboratories, CSIRO, Universities and by research groups.

Since then, the research activity has grown considerably in magnitude and currently involves many of the seventy five companies which comprise the Company, Associate and Division members within the Association.

Fields of research cover geology, ore genesis and exploration techniques, mining and rock mechanics, mineral processing, ecology, energy, analytical methods and miscellaneous other items and the expenditure in these fields in 1978–79 was approximately $1,100,000.

International relations

Because Australia is a large supplier of certain minerals to the rest of the world, and because the welfare of the domestic industry depends to a large extent on the maintenance of a high level of exports, international relations are of considerable importance to the industry, and the Commonwealth Government takes an active role in international consultations and discussions relating to minerals. The most important international commitments are discussed below.

International Tin Agreement

The First International Tin Agreement (of the post-war period) was in operation for five years from 1 July 1956 to 30 June 1961. This Agreement was subsequently replaced by the Second, Third and Fourth International Tin Agreements, which came into force on 21 February 1962, 21 March 1967 and 1 July 1971 respectively. Details of the Second and Third Agreements are given in Year Book No. 57, pages 911–12. Details of the Fourth Agreement are given in Year Book No. 61, page 942.

Australia has signed and ratified the Fifth International Tin Agreement which came into operation on 1 July 1976 for a period of 5 years. Australia joined the Fourth and Fifth Agreements as a 'producing' (i.e. exporting) member, whereas in the first three agreements Australia's status had been that of a 'consuming' (i.e. importing) member.

The objectives and provisions of the present Agreement are essentially the same as for its predecessors. The International Tin Agreement establishes floor and ceiling prices for tin and, by the medium of a buffer stock and remedial trading, aims at confining the prices within these limits. Producing countries are required to contribute to a buffer-stock equivalent in cash or tin up to 20,000 tonnes of tin metal, which is used to buffer short-term fluctuations in the world price market. In addition, consuming countries may also make contributions in either cash or tin metal up to the equivalent of 20,000 tonnes of tin metal. In the event of persistent market disequilibrium through causes beyond the control of the buffer stock mechanism, the agreement also provides for the regulation of exports and stocks to stabilise the market.

The International Tin Agreement is operated by the International Tin Council, which is made up of the following governments: *Producers*—Australia, Bolivia, Indonesia, Malaysia, Nigeria, Thailand, Zaire; *Consumers*—Austria, Belgium-Luxembourg, Bulgaria, Canada, Czechoslovakia, Denmark, France, Germany (Federal Republic of), Hungary, India, Ireland (Republic of), Italy, Japan, Netherlands, Norway, Poland, Romania, Spain, Turkey, United Kingdom, United States of America, Union of Soviet Socialist Republics and Yugoslavia. The producing countries hold a total of 1,000 votes, distributed so that each country receives five initial votes and an additional number corresponding to its percentage as laid down by the Agreement. The consuming countries hold a total of 1,000 votes also distributed so that each country receives five initial votes and an additional number proportionate to quantities consumed. The allocation of votes in each category is periodically reviewed.

International Lead-Zinc Study Group

With the cessation of stockpile buying of lead and zinc by the United States Government in 1958, world producers were faced with the prospect of a serious imbalance between world supply and demand for these metals. To meet this problem, a series of meetings of interested governments was held at which Australia was represented. These meetings culminated in the formation of the International Lead-Zinc Study Group which was established in January 1960. The Study Group comprises the following Governments: Algeria, Australia, Austria, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Finland, France, Germany (Federal Republic of), Hungary, India, Ireland (Republic of), Italy, Japan, Mexico, Morocco, Netherlands, Norway, Peru, Poland, South Africa (Republic of), Spain, Sweden, Tunisia, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Yugoslavia and Zambia. The Group provides opportunities for inter-governmental consultations on international trade in lead and zinc and for studies of the world situation in lead and zinc having regard especially to the desirability of providing continuous, accurate information regarding the supply and demand position and its probable development.

Association of Iron Ore Exporting Countries (APEF)

Australia is a founder member of the Association of Iron Ore Exporting Countries (APEF). Other members include Algeria, India, Liberia, Mauritania, Peru, Sierra Leone, Sweden and Venezuela.

The objectives of the Association are to promote close co-operation among Member countries with a view to safeguarding their interests in relation to the iron ore export industry; to ensure the orderly and healthy growth of export trade in iron ore; to assist Member countries to secure fair and remunerative returns from the exploitation, processing and marketing of iron ore with a view to improving their export earnings and terms of trade; to contribute to the economic and social development of Member countries and, in particular, to encourage further processing of iron ore in Member countries including into iron and steel; and to provide a forum for the exchange of information and effective and meaningful consultations on problems relating to the iron ore export industry with a view to enabling Member countries to take appropriate action.

Although meetings of the Association have been mainly concerned with administrative matters, it has been agreed that the Secretariat's work programme should give priority to the preparation of statistical material. The Association has also discussed the attitudes of APEF members to iron ore matters raised under the UNCTAD Integrated Programme on Commodities.

Intergovernmental Council of Copper Exporting Countries (CIPEC)

The CIPEC was established in 1967 by the Governments of Chile, Peru, Zaire and Zambia as an intergovernmental consultative organisation.

Australia and Papua-New Guinea were admitted as Associate Members and Indonesia as a Full Member in 1975; Yugoslavia was admitted as an Associate Member in 1977. Associate Members may participate in meetings but have no voting rights and are not bound by CIPEC's decisions.

The key objectives of CIPEC are to co-ordinate measures to achieve continuous growth in real earnings from copper exports and to harmonise the decisions and policies of members relating to copper production and marketing.

International Bauxite Association

Australia joined the International Bauxite Association (IBA) as a founder member in October 1974. Other members are Dominican Republic, Ghana, Guinea, Guyana, Haiti, Indonesia, Jamaica, Sierra Leone, Surinam and Yugoslavia. Members account for about three-quarters of world bauxite production with Australia accounting for over one quarter of world production.

The objectives of the Association are to promote the orderly and rational development of the bauxite industry; to secure for members fair and reasonable returns from the exploration, processing and marketing of bauxite and its products for the economic and social development of their peoples, bearing in mind the recognised interests of consumers; and generally to safeguard the interests of member countries in relation to the bauxite industry.

The Association consists of a Council of Ministers which meets once a year and is the supreme organ, an Executive Board consisting of senior officials which meets three times a year and a Secretariat which is located in Kingston, Jamaica.

The IBA provides members with an opportunity to discuss common problems and evolve co-operative policies to facilitate further development of their bauxite/alumina/aluminium industries. To date the Association's work has been mostly concerned with exchanging views and information on a range of industry matters. The commercial and technical aspects of formulating minimum export prices for bauxite and alumina has received particular attention. In December 1978 the Council adopted recommendations on minimum CIF prices for bauxite and alumina. Australia was not included in the majority that voted for the recommendations and is not bound by them. The Association publishes a Quarterly Review and a bi-monthly newsletter.

MINERAL INDUSTRY STATISTICS

Statistics in the following pages refer mainly to the mining industry, mineral production, mineral exploration, mineral processing and treatment, and overseas trade.

Mining industry statistics

This section contains statistics of the mining industry in Australia obtained from the annual census of mining establishments. Commencing with the year ended June 1969, the annual mining census has been conducted throughout Australia on an integrated basis with other economic censuses, e.g. the annual census of manufacturing establishments, the periodic censuses of electricity and gas establishments and the retail and wholesale trade establishments censuses; it is therefore on a different basis to those of earlier years.

Statistics are also available for *enterprises* engaged in the mining industry. The latest statistics for mining are in respect of 1968–69 and were published in *Enterprise Statistics: Details by Industry Class, Australia,* 1968–69 (8103.0). Enterprise statistics for mining will be produced annually commencing with data for 1977–78 and should be available within two years of the end of the financial year to which they relate.

Further information regarding these differences and mining industry statistics for years prior to 1968–69 is contained in Year Book No. 57, and earlier issues.

The following table shows key items of data for establishments in Australia for 1977–78 based on the 1978 edition of the *Australian Standard Industrial Classification* (ASIC). The 1978 edition of the classification replaces the 1969 preliminary edition which has been in use since the 1968-69 census. However, in order to provide a link between past and future series, 1977–78 data are shown in the publication *Census of Mining Establishments, Details of Operations by Industry Class, Australia* (8402.0) according to both editions of ASIC.

A document fully describing the differences between the 1969 and 1978 editions of the ASIC is available on request.

MINING ESTABLISHMENTS: SUMMARY OF OPERATIONS BY INDUSTRY CLASS, 1977-78 (BASED ON 1978 EDITION of ASIC)

Industry		Establishments at 30 June	Average employment over whole year(a)			Wages and salaries (b)	Turnover	Stocks		Total purchases, transfers in and selected expenses	Value added	Rent and leasing expenses	Fixed capital expenditure less disposals
1978 ASIC code	Description		Males	Females	Persons			Opening	Closing				
		No.	No.	No.	No.	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
	Metallic minerals—												
	Ferrous metal ores—												
1111	Iron ores	23	6,511	817	7,328	123,039	959,143	95,896	105,155	413,744	554,658	3,712	214,481
1112	Iron ore pelletising	4	1,279	85	1,364	22,386	197,013	27,222	23,014	169,189	23,616	562	1,075
	Non-ferrous metal ores—												
1121	Bauxite	6	1,750	177	1,927	27,294	n.p.	15,587	16,567	n.p.	146,681	1,102	33,008
1122	Copper ores	11	4,200	229	4,429	61,028	166,347	19,525	18,241	71,186	93,876	611	8,742
1123	Gold ores	31	1,231	77	1,308	17,104	91,812	9,932	11,779	26,645	67,014	105	11,815
1124	Mineral sands	21	2,062	139	2,201	27,588	118,244	44,086	37,483	52,385	59,256	2,004	13,989
1125	Nickel ores	8	2,679	213	2,892	44,423	193,766	15,643	11,203	62,628	126,697	884	67,653
1126	Silver-lead-zinc ores	8	6,215	290	6,505	97,858	380,352	62,128	72,720	83,275	307,670	713	74,118
1127	Tin ores	38	1,393	96	1,489	17,157	104,309	5,405	7,392	28,034	78,262	469	8,795
1128	Uranium ores	1	1,685	179	1,864	23,986	n.p.	23,482	28,852	n.p.	99,837	207	23,457
1129	Non-ferrous metal ores n.e.c.	15											
11	*Total metallic minerals*	*166*	*29,005*	*2,302*	*31,307*	*461,863*	*2,533,217*	*318,906*	*332,405*	*989,148*	*1,557,567*	*10,369*	*457,133*
	Coal, oil and gas—												
1201	Black coal	115	23,019	494	23,513	407,830	1,944,717	168,680	199,127	630,894	1,344,270	9,583	193,080
1202	Brown coal	4	2,985	102	3,087	44,514	795,250	35,199	42,047	82,973	719,125	1,681	108,085
1300	Oil and gas	10											
	Construction materials—												
1401	Sand and gravel	305	1,383	113	1,496	16,673	105,951	6,927	7,475	44,702	61,797	3,536	4,258
1404	Construction materials n.e.c.	421	3,849	321	4,170	48,997	238,136	22,674	26,325	101,167	140,619	7,351	23,158
14	*Total construction materials*	*726*	*5,232*	*434*	*5,666*	*65,670*	*344,087*	*29,602*	*33,800*	*145,869*	*202,416*	*10,888*	*27,416*
	Other non-metallic minerals—												
1501	Limestone	50	690	12	702	8,486	36,784	2,020	2,535	16,188	21,111	704	3,572
1502	Clays	139	244	20	264	2,561	17,026	2,373	2,302	9,787	7,168	203	790
1504	Salt	24	723	69	792	9,902	36,753	8,026	10,419	13,650	25,497	445	6,898
1505	Non-metallic minerals n.e.c.	118	1,144	82	1,226	12,580	68,975	13,946	16,034	43,229	27,834	2,750	7,004
15	*Total other non-metallic minerals*	*331*	*2,801*	*183*	*2,984*	*33,530*	*159,537*	*26,364*	*31,290*	*82,853*	*81,609*	*4,102*	*18,264*
	Total mining (excl. services to mining)	**1,352**	**63,042**	**3,515**	**66,557**	**1,013,407**	**5,776,807**	**578,752**	**638.668**	**1,931,737**	**3.904,987**	**36,622**	**803,978**

(*a*) Includes working proprietors. (*b*) Excludes amounts drawn by working proprietors.

Mining accidents

Particulars of numbers of persons killed and injured in accidents in mines and associated treatment plants are recorded by State Mines Departments. Numbers injured are not reported on a uniform basis in all States, as varying criteria are used in determining what constitutes injury. A table setting out mining accidents by States is shown below.

MINING ACCIDENTS(*a*)

	Metal mining		*Fuel mining*		*Construction material quarrying*(*b*)		*Non-metal (excluding fuel) mining*		*Total mining and quarrying*	
	Number of casualties		*Number of casualties*		*Number of casualties*		*Number of casualties*		*Number of casualties*	
	Killed	*Injured*	*Killed*	*Injured*	*Killed*	*Injured*	*Killed*	*Injured*	*Killed*	*Injured*
1977–78–										
New South Wales	1	189	6	80	3	7	1	10	11	286
Victoria	–	–	–	35	1	39	–	1	1	75
Queensland	(*d*)3	(*d*)166	(*d*)1	(*d*)222	(*d*)2	(*d*)13	–	(*d*)14	(*d*)6	(*d*)415
South Australia	1	33	–	18	–	18	4	11	5	80
Western Australia	3	422	–	90	–	10	–	18	3	540
Tasmania	1	171	–	5	–	1	–	1	1	178
Northern Territory	1	33	–	–	–	–	–	–	1	33
Australian Capital Territory	(*b*)	(*b*)	(*b*)	(*b*)	(*b*)	(*b*)	(*b*)	(*b*)	(*b*)	(*b*)
Australia(*b*)(*c*)	**10**	**1,014**	**7**	**450**	**6**	**88**	**5**	**55**	**28**	**1,607**
1976–77	20	987	13	426	2	128	3	47	38	1,588

(*a*) *See* text regarding comparability between States. (*b*) Mining accident data for construction material quarrying in the A.C.T. are not available. (*c*) These figures include some accidents in the mineral processing industry, and, in Western Australia, in electricity generating plants at the mine site. (*d*) Year ended 31 December 1977.

Mineral production

This section contains details of the output (quantity and value) of minerals produced and the metallic content of ores, concentrates, etc.

The statistics shown have been derived from data collected in the annual mining census and in returns to the various State Mines Departments, supplemented in some cases by information made available by the Department of National Resources and from other sources.

For details of the scope of mineral production statistics and their relation to mining industry statistics, and the principles for measuring the output of minerals, *see* Year Book No. 61 and earlier issues.

Quantity of minerals produced

The following tables show particulars of the quantities of minerals produced during 1977–78 and earlier years, together with details of the aggregate quantity of each metal, metallic oxide or elements contained in the various metallic minerals produced.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES CONCENTRATES, ETC.

Mineral		*1975–76*	*1976–77*	*1977–78*
METALLIC MINERALS				
Antimony concentrate	tonnes	1,649	n.p.	n.p.
Antimony content	"	1,089	n.p.	n.p.
Antimony ore	tonnes	507	1,230	464
Antimony content	"	n.p.	111	61
Bauxite	'000 tonnes	19,755	22,806	24,642
Alumina (Al_2O_3) content	"	n.p.	n.p.	n.p.
Beryllium ore	tonnes	—	—	—
Beryllium oxide (BeO) content	mtu(*a*)	—	—	—
Bismuth concentrate	tonnes	4,829	5,338	5,743
Bismuth content	tonnes	817	853	756
Copper content	tonnes	695	1,116	1,227
Gold content	kg	729	485	533

For footnotes *see* end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES CONCENTRATES, ETC.—*continued*

Mineral		*1975–76*	*1976–77*	*1977–78*
Selenium content	tonnes	—	28	31
Silver content	kg	286	191	210
Copper concentrate	tonnes	788,703	755,714	750,431
Copper content	”	202,865	198,069	198,290
Bismuth content	tonnes	34	203	183
Gold content	kg	2,000	2,369	2,210
Lead content	tonnes	507	364	363
Silver content	kg	32,232	28,362	27,477
Zinc content	tonnes	1,655	1,210	1,259
Copper ore	tonnes	4,364	11,874	1,271
Copper content	”	372	2,029	101
Gold content	kg	3	1	—
Silver content	”	15	216	231
Copper ore for fertilizer	tonnes	—	—	—
Copper content	”	—	—	—
Copper oxide	tonnes	2,316	2,735	3,810
Copper content	”	1,784	2,129	2,953
Copper precipitate	tonnes	68	45	51
Copper content	”	50	29	36
Gold bullion(*b*)	kg	15,964	15,608	21,127
Gold content	”	12,550	11,004	16,291
Silver content	kg	2,383	1,734	1,407
Gold ore	tonnes	294	115	25
Gold content	kg	59	2	1
Iron ore(*c*)	’000 tonnes	92,687	94,766	89,872
Iron content	”	58,263	60,164	54,739
Iron oxide(*d*)	tonnes	55,758	56,934	51,156
Lead concentrate	tonnes	576,481	632,210	621,670
Lead content	”	369,466	391,286	385,510
Antimony content	”	580	535	513
Cadmium content	”	54	64	51
Copper content	”	3,347	4,057	4,235
Gold content	kg	307	260	276
Silver content	kg	559,923	682,578	662,685
Sulphur content	tonnes	45,362	48,536	49,576
Zinc content	”	31,283	34,314	32,424
Lead-copper concentrate	tonnes	19,480	25,709	46,654
Lead content	”	4,823	6,215	12,845
Copper content	”	2,656	3,328	3,658
Gold content	kg	986	1,132	1,333
Silver content	”	42,780	49,533	67,382
Sulphur content	tonnes	5,527	7,674	11,478
Zinc content	”	1,942	2,490	6,685
Lead ore (*e*)	tonnes	42,997	34,760	51,066
Lead content	„	2,718	1,923	2,857
Silver content	kg	3,503	2,175	3,234
Lead-zinc middlings	tonnes	9,483	21,656	628
Lead content	„	1,745	1,992	208
Antimony content	„	9	—	1
Cadmium content	„	19	43	1
Copper content	„	114	260	8
Gold content	kg	25	58	2
Silver content	„	13,674	21,764	200
Sulphur content	tonnes	2,702	6,172	179
Zinc content	„	3,139	9,334	188
Manganese ore—				
Metallurgical grade	’000 tonnes	1,576	1,681	1,325
Manganese content	„	765	806	628
Mineral sands (*f*)—				
Ilmenite concentrate (*g*)	tonnes	929,269	990,444	1,137,062
Titanium dioxide content	„	523,527	541,079	626,662
Leucoxene concentrate	tonnes	14,821	8,818	17,423
Titanium dioxide content	„	13,082	7,700	16,284
Monazite concentrate	tonnes	4,766	7,019	9,294
Monazite content	„	4,392	6,487	8,646

For footnotes *see* end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES CONCENTRATES, ETC.—*continued*

Mineral		*1975–76*	*1976–77*	*1977–78*
Rutile concentrate	tonnes	367,763	370,532	274,181
Titanium dioxide content	"	352,710	354,966	262,990
Xenotime concentrate	tonnes	14	13	16
Yttrium oxide content	kg	4,200	3,900	4,848
Zircon concentrate	tonnes	386,604	407,603	365,140
Zirconium dioxide content	"	316,075	325,542	284,956
Nickel concentrate	tonnes	471,662	450,224	466,638
Nickel content	"	57,307	54,578	56,850
Cobalt content	"	135	171	234
Copper content	"	4,585	4,438	4,839
Palladium content	kg	192	213	356
Platinum content	"	79	81	141
Nickel ore	'000 tonnes	1,922	2,238	2,560
Nickel content	tonnes	23,646	26,521	30,141
Pyrite concentrate	tonnes	213,348	227,532	252,469
Sulphur content	"	101,352	109,807	114,690
Tantalite-columbite concentrate	kg	119,970	104,990	207,331
Tantalite-columbite content	"	52,160	41,050	89,040
Tin concentrates	tonnes	19,143	20,944	22,684
Tin content	"	9,609	10,253	11,726
Tin-copper concentrate	tonnes	2,896	2,610	1,806
Tin content	"	76	72	45
Copper content	"	628	535	390
Tungsten concentrates—				
Scheelite concentrate	tonnes	2,360	3,190	n.p.
Tungstic oxide content	mtu(*a*)	167,000	n.p.	n.p.
Wolfram concentrate	tonnes	641	567	n.p.
Tungstic oxide content	mtu(*a*)	45,422	39,735	n.p.
Zinc concentrate	tonnes	839,627	822,367	850,143
Zinc content	"	432,661	426,194	441,888
Cadmium content	"	1,500	1,441	1,472
Cobalt content	"	103	109	108
Copper content	"	1,200	1,226	1,228
Gold content	kg	204	215	227
Lead content	tonnes	17,405	16,446	16,943
Manganese content	"	5,785	5,241	5,534
Mercury content	kg	332	21	—
Silver content	kg	65,072	53,199	59,512
Sulphur content	tonnes	268,068	261,861	269,214
Zinc ore	tonnes	22,851	4,643	4,137
Zinc content	"	8,583	1,764	1,874

COAL

Black coal	'000 tonnes	69,269	75,982	79,338
Bituminous	"	63,967	70,467	73,654
Sub-bituminous	"	5,302	5,516	5,684
Brown coal (lignite)(*h*)	"	26,711	28,231	27,644
Brown coal briquettes	"	946	1,035	1,064

OIL AND GAS (*i*)

Crude oil	'000 cu m	23,839	24,549	24,941
Natural gas	mil. cu m	5,172	6,093	6,720
Natural gas condensate(*j*)	cu m	6,619	5,612	6,125
Ethane	'000 cu m	73,208	103,350	110,455
Liquefied petroleum gases (*k*)—				
Propane	'000 cu m	1,053	1,208	1,269
Butane	'000 cu m	1,182	1,325	1,388

For footnotes *see* end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES CONCENTRATES, ETC.—*continued*

Mineral		*1975–76*	*1976–77*	*1977–78*
CONSTRUCTION MATERIALS(*l*)				
Sand	'000 tonnes	23,206	24,950	24,345
Gravel	"	14,832	15,071	14,394
Dimension stone	"	169	87	91
Crushed and broken stone	"	54,293	53,012	60,576
Other	"	31,858	30,222	26,905
OTHER NON-METALLIC MINERALS				
Asbestos	tonnes	57,235	55,814	50,590
Barite	"	n.p.	n.p.	11,035
Carbon dioxide	"	n.p.	n.p.	n.p.
Chlorite	"	208	—	—
Clays—				
Brick and shale	'000 tonnes	8,856	8,571	8,549
Other(*m*)	"	1,202	1,190	n.p.
Diatomite	tonnes	1,681	1,371	2,630
Dolomite	"	515,094	535,330	622,939
Felspar (including cornish stone)	"	4,123	2,998	2,505
Garnet concentrate	"	1	658	1,187
Gypsum	'000 tonnes	912	992	900
Limestone (including shell and coral)	"	10,185	10,528	10,750
Magnesite, crude	tonnes	n.p.	16,873	18,138
Mineral pigments—red ochre	"	874	166	193
Peat(*n*)	"	n.p.	n.p.	n.p.
Pebbles—for grinding	"	1,799	1,260	1,673
Perlite	"	2,136	4,621	829
Phosphate rock	"	168,601	455,986	397,041
Pyrophyllite	"	15,542	12,112	12,774
Salt	'000 tonnes	5,350	5,023	5,410
Silica	"	1,188	1,406	1,314
Sillimanite	tonnes	567	7,228	589
Talc (including steatite)	"	74,098	86,222	123,196

(*a*) Metric ton unit (mtu) equals 10 kilograms. (*b*) Includes alluvial gold. (*c*) Includes iron concentrate. (*d*) For cement manufacture, coal washing. (*e*) Includes silver-lead ore, silver-lead slimes and lead slag. (*f*) Details relating to rutile-zircon concentrates produced in one State and finally separated in another State are included in separate form in the data of the State of origin. (*g*) Includes Beneficiated Ilmenite. Also includes ilmenite from which titanium dioxide is not commercially extractable. (*h*) Excludes brown coal used for briquette production. (*i*) *Source:* Department of National Development and State Mines Departments. (*j*) Sales—excludes condensate blended and other petroleum products. (*k*) Excludes refinery production. (*l*) Incomplete. (*m*) Incomplete owing to difficulties of coverage. (*n*) Comprises peat for fertiliser and peat moss.

CONTENTS OF METALLIC MINERALS PRODUCED

Contents of metallic minerals produced		*1975–76*	*1976–77*	*1977–78*
Alumina (Al_2O_3)	'000 tonnes	n.p.	n.p.	n.p.
Antimony	tonnes	n.p.	n.p.	n.p.
Beryllium oxide (BeO)	mtu(*a*)	—	—	—
Bismuth	kg	890,703	1,056,199	890,703
Cadmium	tonnes	1,573	1,548	1,573
Cobalt	"	2,026	2,210	2,646
Copper	"	218,296	217,216	217,083
Gold	kg	16,901	15,666	21,047
Iron(*b*)	'000 tonnes	58,263	60,164	54,739
Lead	tonnes	396,664	418,226	418,801
Manganese	"	771,060	811,414	633,047
Mercury	kg	332	21	—
Monazite	tonnes	4,392	6,487	8,646
Nickel	"	80,953	81,099	86,991
Palladium	kg	192	213	356
Platinum	"	79	81	141
Selenium	tonnes	—	28	31

CONTENTS OF METALLIC MINERALS PRODUCED—*continued*

Contents of metallic minerals produced		*1975–76*	*1976–77*	*1977–78*
Silver	kg	721,544	840,084	837,315
Sulphur	tonnes	423,011	434,050	445,137
Tantalite-columbite ($Ta_2O_5 + Nb_2O_5$)	'000 grams	52,160	41,050	89,040
Tin	tonnes	9,685	10,325	11,771
Titanium dioxide (TiO_2)	"	889,460	903,756	905,536
Tungstic oxide (WO_3)	mtu(*a*)	212,422	n.p.	n.p.
Yttrium oxide (Y_2O_3)	kg	4,200	3,900	4,848
Zinc	tonnes	479,263	475,306	484,376
Zirconium dioxide (ZrO_2)	"	316,131	325,572	284,956

(*a*) Metric ton unit (mtu) equals 10 kilograms. (*b*) Excludes iron content of iron oxide not intended for metal extraction. Includes iron contained in iron concentrate.

Value of minerals produced

The following table shows the value of minerals produced in the past six years.

VALUE OF MINERALS PRODUCED
($'000)

Mineral	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
METALLIC MINERALS						
Antimony—						
Concentrate	546	932	1,904	1,462	n.p.	n.p.
Ore	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Bauxite	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Beryllium ore	23	23	1	—	—	—
Bismuth concentrate	6,813	7,609	14,085	10,591	12,183	7,923
Copper—						
Concentrate	154,748	267,873	168,047	159,876	182,448	151,487
Ore(*a*)	701	n.p.	766	305	1,202	109
Ore for fertiliser	9	5	3	—	—	—
Oxide	757	982	1,406	1,900	2,730	3,656
Precipitate	101	168	31	42	31	27
Gold—						
Bullion(*b*)	25,730	26,839	43,139	43,735	47,501	82,122
Concentrate	n.a.	n.a.	—	—	219	215
Ore	—	3	8	10	3	3
Iron ore	395,189	427,518	613,169	674,515	746,577	769,408
Iron oxide	1,150	n.p.	855	915	1,000	1,020
Lead concentrate	(*c*)72,060	110,875	124,519	117,099	177,760	208,343
Lead-copper concentrate	6,089	8,799	7,609	8,363	10,822	15,745
Lead ore(*d*)	494	403	579	566	527	964
Lead-zinc middlings	2,560	2,002	2,422	2,094	5,630	110
Manganese ore	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Mineral sands—						
Ilmenite concentrate(*e*)	8,155	7,953	14,270	15,835	17,753	21,860
Leucoxene concentrate	722	1,060	2,079	2,078	1,318	2,265
Monazite concentrate	551	542	515	774	1,178	1,621
Rutile concentrate	36,510	36,750	53,674	71,750	75,654	50,631
Xenotime concentrate	22	7	12	9	9	15
Zircon concentrate	11,821	16,726	58,128	60,935	42,026	25,729
Nickel concentrate	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Nickel ore	n.p.	—	n.p.	n.p.	n.p.	n.p.
Pyrite concentrate	139	238	441	771	709	833
Tantalite-columbite concentrate	670	777	942	1,256	1,127	3,670
Tin concentrate	32,282	43,448	49,138	49,060	70,022	108,927
Tin-copper concentrate	516	860	390	435	383	287
Tungsten ores and concentrates	5,550	5,292	11,385	15,497	34,204	n.p.
Uranium concentrate	n.a.	n.a.	—	2,641	15,460	24,077
Zinc concentrate	61,820	97,122	138,385	133,340	132,922	120,217
Zinc ore	—	1,551	2,439	1,600	325	362
Other metallic minerals	—	—	84	2,928	n.p.	n.p.
Total metallic minerals	*995,416*	*1,281,782*	*1,572,746*	*1,676,273*	*1,986,680*	*2,059,716*

For footnotes *see* end of table.

VALUE OF MINERALS PRODUCED—*continued*

Mineral	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
			COAL			
Black coal	390,980	449,855	874,879	1,211,199	1,438,289	1,576,914
Brown coal (lignite) (*f*)	24,716	27,251	40,556	48,346	55,905	64,925
Brown coal briquettes	9,173	11,011	11,391	11,974	14,925	16,536
Total coal	*424,869*	*488,116*	*926,827*	*1,271,519*	*1,509,119*	*1,658,375*
			OIL AND GAS(*g*)			
Oil and Gas	*311,903*	*378,750*	*446,298*	*488,419*	*534,815*	*671,233*
			CONSTRUCTION MATERIALS(*h*)			
Construction materials	*170,484*	*196,611*	*238,044*	*256,328*	*272,774*	*308,174*
			OTHER NON-METALLIC MINERALS			
Asbestos	3,256	4,140	7,960	18,406	20,382	20,514
Barite	208	98	303	n.p.	n.p.	404
Carbon dioxide	47	52	45	56	163	180
Chlorite	n.a.	n.a.	10,084	8,723	—	—
Clay—						
Brick clay and shale	9,355	11,153	10,241	12,634	12,821	13,676
Other clays	2,682	n.p.	n.p.	4,335	4,774	7,085
Diatomite	43	70	45	60	71	310
Dolomite	888	1,087	991	1,262	1,421	1,654
Felspar (including cornish stone)	35	48	87	97	77	63
Garnet concentrate	2	2	—	—	11	21
Gems	40,911	47,262	37,032	41,972	64,006	70,219
Gypsum	2,826	3,665	3,176	3,069	4,216	4,061
Limestone (including shell and coral)	16,932	20,794	24,221	26,087	30,154	34,159
Magnesite, crude	318	291	722	n.p.	340	411
Mineral pigments—red ochre	10	6	—	15	3	4
Peat(*i*)	n.p.	143	146	n.p.	n.p.	n.p.
Pebbles—for grinding	36	43	27	38	35	27
Perlite	18	11	32	12	45	17
Phosphate rock	6	6	894	1,508	4,477	1,672
Pyrophyllite	112	103	156	200	187	229
Salt	12,655	16,410	21,951	29,394	33,623	38,558
Silica	4,484	5,353	6,301	6,559	n.p.	n.p.
Sillimanite	17	19	22	18	141	27
Talc (including steatite)	n.p.	1,363	1,348	n.p.	n.p.	n.p.
Vermiculite	35	n.p.	n.p.	—	n.p.	7
Total other non-metallic minerals	*95,943*	*116,062*	*120,097*	*149,398*	*188,057*	*205,143*
			TOTAL			
Total, all minerals and construction materials	**1,998,615**	**2,461,320**	**3,304,012**	**3,841,444**	**4,491,445**	**4,902,640**

(*a*) Includes value of copper slag. (*b*) Includes alluvial gold. (*c*) Excludes value of Western Australian production. (*d*) Includes value of silver-lead ore, silver-lead slimes and lead slag. (*e*) Includes beneficiated ilmenite. (*f*) Excludes value of coal used in making briquettes. (*g*) The values shown are estimates based on prices prescribed in legislation quoted market prices and information from government departments. Includes values for crude oil natural gas, natural gas condensate, ethane, propane and butane. (*h*) Incomplete owing to difficulties of coverage in some States. (*i*) Comprises peat for fertiliser and peat moss.

Foreign control of the mining industry in Australia

Summary information on foreign ownership and control of the mining industry in Australia is shown in Chapter 24, Overseas Transactions. More detailed statistics are available in *Foreign Ownership and Control of the Mining Industry* (5317.0) and *Foreign Control in Mineral Exploration* (5323.0).

Mineral exploration (other than for petroleum)

Definition

Exploration consists of the search for and/or appraisal of new ore occurrences and known deposits of minerals (including extensions to deposits being worked) by geological, geophysical, geochemical and other methods (including drilling). Exploration for water is excluded. The construction of shafts and adits is included if primarily for exploration purposes. Excluded are mine development activities carried out primarily for the purpose of commencing or extending mining or quarrying operations (including the construction of drives, shafts, winzes, etc. in underground mines, and the preparation of quarrying sites, including overburden removal, for open-cut extraction).

Sources of statistics

The statistics of exploration for minerals *other than petroleum* are derived from the annual mineral exploration census conducted by the Australian Bureau of Statistics in each State and the Northern Territory (in New South Wales the census is conducted jointly with the State Mines Department).

Classification

The data obtained in the mineral exploration census are divided into the following categories:

(*a*) *Private exploration on production leases*—relates to exploration carried out on the production lease by privately-operated mines currently producing or under development for the production of minerals.

(*b*) *Other private exploration*—relates to exploration carried out by private enterprises on areas covered by exploration licences, authorities to enter, authorities to prospect and similar licences and authorities issued by State Governments for exploration of minerals. Also included is exploration by private enterprises which is not directly connected with areas under lease, licence, etc.

(*c*) *Exploration by government*—relates to exploration of minerals carried out by Federal and State Government Departments, local government authorities and business undertakings operated by those departments or authorities.

Expenditure, metres drilled

The following table show expenditure and metres drilled on mineral exploration other than for petroleum in Australia during the last six years.

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Expenditure ($'000)—						
On drilling	29,039	28,824	36,172	35,104	40,888	56,277
Other	79,088	83,714	88,029	82,033	108,605	120,058
Australia	**108,127**	**112,539**	**124,200**	**117,137**	**149,493**	**176,336**
Metres drilled ('000)—						
Drilled-core	769	657	733	530	529	638
Drilled-non-core	2,181	1,854	1,775	1,589	1,434	1,893
Australia	**2,949**	**2,511**	**2,509**	**2,119**	**1,963**	**2,531**

Petroleum exploration

Source of statistics

These statistics were collected and compiled by the Bureau of Mineral Resources, Geology and Geophysics, Canberra. Statistical and other information relating to petroleum exploration is published by the Bureau of Mineral Resources in *The Petroleum Newsletter* (issued quarterly) and *The Australian Mineral Industry Annual Review,* and by the Australian Bureau of Statistics in its quarterly publication, *Petroleum Exploration, Australia* (8409.0).

Scope

Petroleum exploration consists of the search for and/or appraisal of deposits of crude oil and/or natural gas and natural gas liquids by geological, geophysical, geochemical, and other exploration methods, including drilling. Included in the expenditure are the costs of drilling exploratory oil and/or gas wells and the testing of such wells. Also included are the costs of access roads, site construction, permits, licences and similar fees, relevant office buildings and furniture, transportation equipment, storage facilities, plant and equipment, and review work where these are undertaken primarily for purposes of exploration for deposits of petroleum. Details of developmental oil and/or gas wells are excluded.

Operations

The following table shows particulars of expenditure, and wells and metres drilled in petroleum exploration in recent years.

PETROLEUM EXPLORATION

		1975	*1976*	*1977*
Expenditure—				
Private sources	$'000	59,990	49,125	84,970
Government sources	$'000	4,941	5,131	4,704
Total	**$'000**	**64,931**	**54,256**	**89,674**
Wells—				
Drilled (i.e. those which reached final depth)—				
As oil producers	No.	—	—	2
As gas producers	No.	3	6	2
As oil and gas producers	No.	1	—	—
Plugged and abandoned	No.	21	11	17
Total	**No.**	**25**	**17**	**21**
Average final depth of wells drilled	m	1,953	2,342	2,577
Drilling still in progress at 31 December (uncompleted holes)	No.	1	3	3
Wells drilled or drilling over 3,000 metres	No.	5	4	10
Metres drilled—				
Completed wells	m	47,617	40,198	49,307
Uncompleted holes	m	620	7,314	10,176
Total	**m**	**48,237**	**47,512**	**59,483**

Mineral processing and treatment

The extraction of minerals from ore deposits, as in mining and quarrying, is only a part of mineral technology, as few minerals can be directly used in the form in which they are mined. In most cases minerals must undergo considerable processing and treatment before utilisation. The sectors of the economy which carry out this work are classified for statistical purposes to Manufacturing Industry (*see* Chapter 17, Manufacturing and Internal Trade).

Principal products

The following table shows particulars of the production of certain important manufactured products of mineral origin during recent years.

PRODUCTION OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN

Commodity		*1975–76(a)*	*1976–77(a)*	*1977–78(a)*
METALS(*b*)				
Non-ferrous—				
Alumina	'000 tonnes	5,619	6,474	6,741
Refined aluminium	tonnes	220,027	236,943	259,592
Blister copper(*c*)	"	174,230	164,041	167,947
Refined copper	"	164,279	157,452	155,353
Lead bullion (for export)(*c*)	"	152,299	158,656	155,641
Refined lead	"	168,183	165,582	207,939
Refined zinc	"	204,534	261,914	262,615
Refined tin	"	5,386	5,373	5,994
Ferrous—				
Pig iron(*d*)	'000 tonnes	7,331	7,055	7,096
Steel ingots(*d*)	"	7,832	7,558	7,445
Precious—				
Refined gold(*e*)	'000 grams	12,829	11,127	17,869
Refined silver	"	226,209	253,268	259,217

PRODUCTION OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN—*continued*

Commodity		*1975–76(a)*	*1976–77(a)*	*1977–78(a)*
FUELS				
Coal products—				
Metallurgical coke	'000 tonnes	4,732	4,501	4,429
Brown coal briquettes	"	946	1,035	1,064
Petroleum products—				
Motor spirit	mil. litres	12,061	12,811	14,073
Furnace fuel	'000 tonnes	4,469	4,666	4,138
Automotive distillate	"	4,652	4,833	5,613
Industrial diesel fuel	"	1,561	1,281	1,291
BUILDING MATERIALS				
Clay bricks	millions	1,815	2,033	1,908
Portland cement	'000 tonnes	5,100	5,083	5,021
Plaster of paris	"	347	384	369
Plaster sheets	'000 sq m	44,794	49,947	48,129
CHEMICALS				
Sulphuric acid	'000 tonnes	1,281	1,752	1,799
Caustic soda	tonnes	139,436	134,247	131,246
Superphosphate(*f*)	'000 tonnes	2,316	3,180	3,388

(*a*) Some products exclude production of single establishment manufacturing establishments employing less than four persons and production of establishments predominantly engaged in non-manufacturing activities but which may carry on in a minor way, some manufacturing. (*b*) Excludes secondary metal with the exception of pig iron and steel ingots. (*c*) Metallic content. (*d*) Year ended 31 May. (*e*) Newly-won gold of Australian origin. (*f*) Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate, i.e. 22% P_2O_5 equivalent.

Overseas trade

Exports and imports

Data of imports and exports of minerals and mineral products have been extracted from the official trade statistics compiled in the Australian Bureau of Statistics. Particulars of the quantities and values ($f.o.b. port of shipment) of the principal minerals and products exported from and imported into Australia during recent years are shown in the following table.

EXPORTS AND IMPORTS OF PRINCIPAL MINERALS AND MINERAL PRODUCTS

Commodity(*a*)		*Quantity*			*Value f.o.b.* ($'000)		
		1976–77	*1977–78*	*1978–79p*	*1976–77*	*1977–78*	*1978–79p*
				EXPORTS(*b*)			
Non-ferrous—							
Copper—							
Concentrate	tonnes	143,012	109,157	131,661	50,960	31,996	43,845
Blister	"	7,247	7,542	12,094	13,254	14,938	26,244
Refined	"	75,278	62,671	53,677	90,973	67,157	76,816
Matte, slags, etc.	"	12,057	11,683	4,472	5,688	5,088	2,560
Lead—							
Concentrate	"	68,472	140,572	71,996	20,348	41,988	31,682
Bullion	"	156,794	157,915	159,637	106,203	116,897	150,618
Refined	"	132,493	138,595	152,240	55,784	71,593	101,400
Slags and residues	"	13,403	2,589	18,560	1,655	846	2,459
Zinc—							
Concentrate	"	379,113	389,247	453,118	58,950	44,751	57,127
Refined	"	170,675	184,290	193,826	109,390	96,066	110,963
Slags and residues	"	6,494	5,446	6,441	1,880	1,404	1,072
Tin—							
Concentrate	"	11,461	14,682	14,244	28,837	49,841	74,678
Refined	"	1,838	2,787	1,288	13,335	27,375	14,674
Aluminium—							
Alumina	'000 tonnes	5,877	6,368	6,408	566,976	667,606	718,939
Refined	tonnes	75,533	75,921	81,026	60,084	69,270	82,219
Ferrous and alloy—							
Iron ore—							
Pellets	'000 tonnes	8,792	8,548	8,130	164,713	175,747	165,390
Fines	"	37,443	34,999	38,851	323,717	367,089	391,287
Lump	"	34,540	31,143	32,565	413,234	409,087	411,021
Tungsten—							
Scheelite concentrate	tonnes	3,101	3,341	3,853	22,450	33,813	38,448
Wolfram concentrate	"	525	767	1,578	3,894	6,861	12,101
Pig iron	"	763,421	519,176	784,415	56,813	39,583	70,546
Steel ingots, blooms	"	1,550,193	1,084,249	1,241,224	172,545	137,906	193,911
Mineral sands—							
Ilmenite concentrate	'000 tonnes	1,167	1,039	977	17,985	22,503	22,421
Rutile concentrate	"	289	315	336	63,430	62,031	63,499
Zircon concentrate	"	351	366	423	47,727	30,706	29,920
Precious—							
Gold, refined	'000 grams	7,924	8,194	13,900	29,642	40,998	22,329
Silver, refined	"	129,002	103,411	89,074	16,134	14,262	16,767
Coal, black	'000 tonnes	34,432	37,161	36,888	1,281,944	1,457,178	1,519,198
Crude oil(*c*)	'000 cu m	206	210	(*f*)368	15,462	16,125	40,156
				IMPORTS			
Tin, refined	tonnes	17	215	204	117	1,959	2,701
Nickel (pigs, anodes, etc.)	"	1,210	2,008	1,532	5,033	8,154	5,905
Ferro-alloys	"	28,663	20,048	26,300	16,938	11,378	15,451
Gold—							
Unrefined bullion(*d*)	'000 grams	1,905	1,241	512	6,468	5,537	2,737
Refined	"	110	228	40	308	796	267
Crude oil(*e*)	'000 cu m	10,092	11,261	(*g*)12,750	646,499	799,135	923,004
Asbestos	tonnes	70,731	58,265	29,443	29,415	25,978	13,038
Diamonds—							
Industrial	metric carats	1,015,153	833,964	1,187,540	4,512	4,263	6,501
Gemstone	"	91,336	132,815	63,337	22,717	31,202	31,375
Phosphate rock	'000 tonnes	1,329	1,510	2,380	42,227	55,279	83,266
Potassium fertilisers	tonnes	165,470	157,397	168,527	9,625	9,137	9,839
Sulphur	"	315,432	475,708	424,660	10,697	14,442	15,077

(*a*) In addition to the commodities listed, significant quantities of bauxite and nickel ores and concentrates are exported but details are not available for publication. (*b*) Quantities shown for metallic minerals are gross quantities, not metallic contents. (*c*) Includes also partly refined oil, topped crudes and enriched crudes. (*d*) Gold content. (*e*) Includes also partly refined oil, topped crudes, enriched crudes and refinery feed stock. (*f*) '000 litres. (*g*) Million litres.

Considerable quantities of metallic ores, concentrates, slags, and residues are exported from Australia for refining overseas. The following table shows selected items exported during 1977–78 and their principal metallic content as estimated by assay.

PRINCIPAL METALLIC CONTENTS OF SELECTED ORES AND CONCENTRATES ETC. EXPORTED FROM AUSTRALIA, 1977-78

	Metallic contents—estimated from assay							
Ores and concentrates, etc.	*Copper*	*Lead*	*Zinc*	*Tin*	*Iron*	*Tungstic Oxides*	*Gold*	*Silver*
	tonnes	tonnes	tonnes	tonnes	'000 tonnes	tonnes	kg	kg
Copper concentrate	35,175	193	—	—	—	—	480	6,489
Blister copper	7,495	—	—	—	—	—	1,714	894
Copper matte, slags, etc.(*a*)	3,464	5,493	65	—	—	—	—	12,682
Lead concentrate	2,154	73,143	6,931	—	—	—	879	122,034
Lead bullion	34	156,895	—	—	—	—	27	308,357
Lead slags and residues	166	1,317	30	2	—	—	—	1,427
Zinc concentrate	—	2,368	199,231	—	—	—	—	17,961
Zinc slags and residues	—	—	4,334	—	—	—	—	—
Tin concentrate	5	—	—	5,787	—	—	—	—
Iron ore—								
Pellets	—	—	—	—	5,442	—	—	—
Fines	—	—	—	—	21,269	—	—	—
Lump	—	—	—	—	20,304	—	—	—
Scheelite concentrate	—	—	—	—	—	2,453	—	—
Wolfram concentrate	—	—	—	—	—	534	—	—
Total metallic content	**48,493**	**239,409**	**210,591**	**5,789**	**47,015**	**2,987**	**3,100**	**469,844**

(*a*) Includes copper matte, copper slags and residues and copper-lead dross and speiss.

Prices

The following table shows average prices of some principal refined metals and ores and concentrates on Australian and certain major overseas markets. Prices of minerals such as iron ore, coal and bauxite are not shown as these minerals are commonly sold on a contract basis rather than on an open market basis.

AVERAGE DAILY PRICES OF SELECTED METALS AND METALLIC ORES AND CONCENTRATES: AUSTRALIAN AND OVERSEAS MARKETS

(*Source:* Bureau of Mineral Resources, Geology and Geophysics)

METALS(*a*)

	Tin				*Aluminium*		*Gold*		*Silver*	
Period	*Aust. ($A—tonne)*	*L.M.E. (£Stg—metric ton)*	*Straits ($Mal-picul)*	*Nickel U.S.A. ($US—16)*	*Aust. ($A—tonne)*	*U.S.A. (USc—lb)*	*Premium markets ($A—f. oz) Australia and Overseas*	*U.K. ($US—f. oz)*	*Aust. ($A—kg)*	*U.K. (Stg new pence—f. oz)*
1975–76	5,698.3	3,402.7	1,014.9	2.17	751.7	41.1	110.40	139.32	112.4	221.9
1976–77	8,404.2	5,263.7	1,344.6	2.38	860.3	46.6	114.8	131.3	127.6	262.9
1977–78	10,919.3	6,441.0	1,677.2	2.10	968.4	48.2	148.1	167.2	140.9	267.8
1977–78										
Highest	12,444.0	7,340.0	1,895.0	2.20	1,019.0	50.5	162.1	184.9	154.5	299.8
Lowest	9,351.0	5,695.0	1,448.0	2.06	964.0	45.5	128.9	144.1	130.1	249.7

	Copper		*Lead*			*Zinc*			
Period	*Aust. ($A—tonne)*	*L.M.E. (£Stg—metric ton)*	*Aust. ($A—tonne)*	*L.M.E. (£Stg—metric ton)*	*U.S.A. (USc—lb)*	*Aust. ($A—tonne)*	*L.M.E. (£Stg—metric ton)*	*Prod. (Stg—ton)*	*U.S.A. (USc—lb)*
1975–76	1,017.9	655.3	300.8	194.9	20.32	628.7	364.3	(*b*)795.0	37.99
1976–77	1,239.9	823.6	475.3	323.7	27.5	694.8	390.4	(*b*)783.8	37.08
1977–78	1,108.3	676.2	512.5	323.5	32.0	544.7	287.8	(*b*)620.8	33.4
1977–78									
Highest	1,180.0	768.0	550.0	356.0	33.0	639.0	319.0	(*b*)700.0	34.0
Lowest	1,040.0	620.0	500.0	293.5	31.0	489.0	242.5	(*b*)550.0	29.0

For footnotes *see* next page.

AVERAGE DAILY PRICES OF SELECTED METALS AND METALLIC ORES AND CONCENTRATES: AUSTRALIAN AND OVERSEAS MARKETS—*continued*

ORES AND CONCENTRATES

Period	*Tin Aust. ($A–mtu)*	*Wolfram Europe ($Stg–mtu)*	*Ilmenite Europe ($A–metric ton)*	*Rutile Europe ($A–metric ton)*	*Zircon Europe ($A–metric ton)*
1975–76	47.89	36.75–64.00	15.00–18.00	290.00–330.00	140.00–330.00
1976–77	71.93	(*c*)143.50–186.50	15.00–18.00	200.00–330.00	90.00–160.00
1977–78	95.98	(*c*)150.62–158.75	15.58–18.33	187.50–197.50	73.75–83.75
1977–78					
Highest	106.04	(*c*)178.00	19.00	210.00	100.00
Lowest	86.14	(*c*)130.00	12.00	180.00	65.00

(*a*) Where a daily price does not actually exist for a commodity, daily prices have been imputed from price data which are available. (*b*) From 2 January 1976 prices quoted in $US per tonne. (*c*) From 1 December 1976 prices quoted in $US per metric ton unit.

NOTE: Prices data shown are those quoted in the relevant markets and are mainly derived from information collected and compiled by the Bureau of Mineral Resources. Overseas data are supplied to the Bureau of Mineral Resources by the *Metal Bulletin* and *Metals Week*.

REVIEW OF RECENT DEVELOPMENTS IN THE AUSTRALIAN MINERAL INDUSTRY

Major developments in the Australian mineral industry, particularly during 1978 and the first half of 1979, are reviewed briefly in subsequent parts of this section. Additional information on developments in the industry is available in *Australian Mineral Industry Annual Review* 1977 published by the Bureau of Mineral Resources, Geology and Geophysics. That publication contains comprehensive reviews of mineral commodities of importance to the Australian economy, as well as a general review of the industry's performance during the year.

General Review of 1978

The major economic indicators of the Australian mining industry, with the exception of ex-mine index of output at constant prices, rose during 1978, indicating at least a partial recovery from the depressed conditions of the previous year. Ex-mine value of output rose by 4 per cent to $4,983 million and value added rose by 10 per cent to $3,905 million. Nevertheless conditions of world oversupply adversely affected a number of commodities, particularly iron ore, manganese ore, rutile, zircon, bauxite, zinc ores and concentrates and nickel ores and concentrates. However, buoyant demand and higher prices were reflected in rises in the quantities and values of production of gold bullion, lead ores and concentrates, tin concentrates, and copper ores and concentrates. The quantity and value of production of uranium oxide also rose significantly.

'Mines and Quarries' was easily the largest single export-earning group in 1978–79, 28.8 per cent of total exports. This figure however, excludes some exports by the smelting and refining section of the industry'.

Imports—1978. The value of imports rose by 11 per cent to $1,024 million. Crude oil remained the largest single import at $786 million, an increase of 10 per cent over the previous year. Other significant mineral imports were phosphate rock, diamonds, elemental sulphur, and nickel (pig, ingots and anodes). Imports of mineral primary products accounted for 8.1 per cent of mineral primary products in 1978, compared with 8.3 per cent in 1977.

Exports—1978. Exports rose by 3 per cent to $4,905 million, the smallest increase in several years. As with production this reflected world conditions of oversupply of a number of commodities particularly iron ore, iron and steel, copper and nickel. Despite the fall in copper exports, however base metals generally experienced a recovery of prices in the latter part of the year as producer inventories declined and world demand strengthened, as also did the mineral sands rutile and zircon.

Black coal strengthened its position as the largest single mineral export earner in 1978, its value increasing by 5 per cent to $1,466 million; it accounted for 30 per cent of the total value of mineral exports.

Following was iron ore which decreased in value by 5 per cent to $906 million, and by alumina whose value increased by 3 per cent to $671 million. These three items in 1978 accounted for 62 per cent of the total value of exports of mineral primary products.

National sufficiency in minerals—1978. The mineral industry's contributions to the national economy can also be assessed by considering the ability of the industry to satisfy domestic mineral, metal, and fuel requirements. Crude oil, phosphate rock, asbestos, diamonds, ferro-alloys, elemental sulphur and potassium fertilisers were the main deficiencies in 1978. Australia is a net exporter of nickel, but refined nickel is still imported to meet demand for forms not produced locally. In 1978, domestic production supplied about 70 per cent of estimated consumption of crude oil. Output of asbestos has mainly been directed to the export market, and about 42,000 tonnes of asbestos was imported in 1978.

Bauxite and Alumina

In 1977, production of bauxite increased to more than 26 million tonnes, alumina production to 6.7 million tonnes, and aluminium to 247,577 tonnes. Australia was again the world's largest producer of bauxite and alumina.

An alumina refinery of initial rated capacity of 500,000 tonnes per year will be commissioned in 1981 at Wagerup, W.A. Capacity will be increased over 15 years to 2 million tonnes per year. Bauxite will be supplied from Mount William, W.A. All alumina produced will be exported.

The first stage of the alumina refinery at Worsley, W.A., will be completed in 1982. Initial rated capacity is one million tonnes per year, and ultimate capacity two million tonnes per year. Bauxite will be supplied from Mount Saddleback, W.A. All alumina produced will be exported.

The production capacity of the aluminium smelter at Kurri Kurri, N.S.W., is to be increased from 67,900 tonnes to 90,000 tonnes per year by 1981. New furnaces commissioned at the Bell Bay, Tasmania, aluminium smelter in mid-1977 increased capacity from 93,000 to 112,000 tonnes per year. It was announced in 1978 that an aluminium smelter will be constructed at Gladstone, Queensland; the first stage will have a design capacity of 206,000 tonnes per year. The rated capacity of the other Australian aluminium smelter, at Point Henry, Victoria, supplied with Western Australian alumina, is 100,000 tonnes per year and will be expanded to 157,000 tonnes per year by early 1981.

In 1979 the construction of several new aluminium smelters and alumina refineries was announced. The smelter to be built at Portland (Victoria) will have a capacity of 120,000 tonnes per year and be completed in 1983. A new smelter to be built at Gladstone (Queensland) will also be completed in 1983 and have an initial capacity of 100,000 tonnes per year. Two smelters will be constructed near Newcastle (New South Wales). One, to be completed in 1983, will have an initial capacity of 109,000 tonnes annually, which will be expanded to 218,000 tonnes per year in 1985, while the other, to be completed in 1984 will have an initial capacity of 236,000 tonnes per year to be expanded to 360,000 tonnes.

Copper

A summary of the copper mining industry in Australia 1953–1975 and the sufficiency of present ore reserves was published in the *Australian Mineral Industry Quarterly Review,* Vol. 30 No. 1.

The Commonwealth Government continued its assistance to the Mount Lyell mine, Tasmania, in the form of an interest-free loan, to June 1980.

Drilling at Teutonic Bore, W.A., has revealed a deposit of between 2–3 million tonnes of ore containing 3.5 per cent copper, 9.5 per cent zinc, and 150g/t silver. A mine will be in production in 1981. The SECOR copper rod line at Townsville, Queensland, was commissioned in December 1977. A substantial copper-zinc deposit has been indicated by drilling near Benambra, Victoria.

Iron

A summary of growth of the Australian iron ore industry 1965 to 1975 has been published in the *Australian Mineral Industry Quarterly Review,* Vol. 29 No. 1.

A heavy-media beneficiation plant is being constructed at Mount Whaleback, W.A., near Newman. It will have the capacity to treat seven million tonnes per year of low-grade ore to produce five million tonnes per year of high-grade concentrates. Completion date is late 1979.

Hamersley Iron Pty Ltd is increasing production capacity from 40 to 46 million tonnes per annum of saleable iron ore by construction of a concentration plant to treat low grade ore at Mount Tom Price. Cliffs Robe River Iron Associates is expanding mine production capacity at Robe River from 16 to 20 million tonnes per annum. Exploration drilling is continuing at the copper-uranium-gold deposit at the Olympic Dam prospect, Roxby Downs, S.A. At Tennant Creek, N.T. the Warrego mine will be expanded and the Gecko mine developed with the emphasis on copper rather than gold as before. The smelter will be recommissioned in 1980 and will supply 15,000 tonnes of blister copper annually to Japan.

Silver, lead and zinc

Mine production of lead and zinc metal in 1978 was 398,429 tonnes and 469,284 tonnes respectively both less than the 1977 production.

A summary of the Australian lead and zinc industry from 1953 to 1973 was published in the *Australian Mineral Industry Quarterly Review,* Vol. 27 No. 4.

Production from the Woodlawn, N.S.W., mine commenced in 1978. A decline shaft is being sunk at the Sorby Hills, W.A., lead deposit. The copper-lead-zinc mine at Que River, Tasmania, with reserves of 3 million tonnes (7 per cent lead; 12.5 per cent zinc; 171 grams/tonnes silver; 3.4 grams/tonnes gold, 0.3 per cent copper) will continue production in 1981.

Black coal

There has been a significant revival in the Australian black coal industry in recent years as a result of increased exports and increased consumption of black coal in iron and steel production and electricity generation. These increases have more than balanced reduced consumption in some applications due to competition from fuel oil. However, in 1979 the price of fuel oil was such that consumers are reverting to the use of coal.

The expansion of the export trade has been of major significance. In 1955 exports were about 200,000 tonnes valued at about $1.7 million; in 1978 exports were 38.7 million tonnes valued at $1,500 million. These increased exports have been largely to Japan and Europe, but tonnages of steaming coal greater than previously are being exported to U.S.A. and south-east Asia for use in the iron and steel industry. As a result of this increased demand, new mines have been opened and others are under development in Queensland and New South Wales, and many established mines are being expanded. Exploration for coal has been stimulated and further rich deposits of coking coal and steaming coal have been located. Raw coal production in 1978 increased to 89.4 million tonnes; saleable coal output totalled 71.9 million tonnes.

A paper entitled *Coal Exploration in Australia* has been published in the *Australian Mineral Industry Quarterly Review,* Vol. 31, No. 1.

Petroleum

At the end of 1978, there were nine oil fields in production: Moonie, Alton and Bennett in Queensland; Barrow Island, Yardarino and Dongara in Western Australia; and Barracouta, Halibut, Mackerel and Kingfish offshore from Victoria in Bass Strait. The production of stabilised crude oil in 1977 amounted to 24,986,000 cubic metres representing 71 per cent of the year's total input to Australian refineries. In 1978, it was 25,187,000 cubic metres, 71.1 per cent of that year's refinery input. The average daily production of 68,454 cubic metres in 1977 was one per cent higher than in 1976; in 1978, it was 69,006 cubic metres, 0.8 per cent higher than in 1977. Natural gas production in 1977 amounted to 6,728 million cubic metres, 13.5 per cent more than in 1976. In 1978, it was 7,320 million cubic metres, 11 per cent more than in 1977. About 13 per cent of this, compared with about 10 per cent in 1977 was used in the field and processing plants and the balance was sold, mainly as fuel, to markets in Victoria, South Australia, Western Australia, New South Wales and Queensland.

During 1977 the major onshore discovery was gas in the Kidman No. 1 well in the Cooper Basin, South Australia. Offshore there were no major discoveries but shows of gas were reported in Haycock No. 1 and Scott Reef No. 2A, both on the Northwest Shelf, off Western Australia. In 1978, there were major onshore discoveries of gas in Kirby No. 1, in South Australia, Wackett No. 1 and Ashby No. 1, in Queensland, and significant oil discoveries in Boggo Creek No. 2 (No. 1 was dry) in Queensland, and Strzelecki No. 3, South Australia. Offshore new oil discoveries were made in Seahorse No. 1 and West Halibut No. 1 (the Fortescue Field), both in the Gippsland Basin, offshore from Victoria.

During the first eight months of 1979, in the offshore Gippsland Basin, the Tuna Platform came into production for oil and the Cobia No. 2 well became Australia's first sub-sea completion. In September 1979 it was producing some 3,000 barrels of oil per day and is connected to the Mackerel Platform. 1979 saw the start of exploration drilling in the deep waters of the Exmouth Plateau offshore from northwestern Australia. In September 1979, there were three dynamically positioned drillships drilling the Plateau in waters in excess of 1,000 metres deep.

The provisional figure for metres drilled in petroleum exploration and development in Australia in 1977 was 111,489 metres, 55.4 per cent more than that drilled in 1976; 60,562 metres were in exploration drilling, including 36,826 metres offshore. Of the forty-one wells completed in 1977, twenty-one were exploration wells, including thirteen offshore. Compared with 1976, there was a rise of two in the number of exploration wells and an increase of seven in the number of development wells drilled. There was also an increase of ten in the number of offshore exploration wells. Two exploration wells were completed as gas producers and two as oil producers. Of the twenty development wells, seventeen were completed as gas producers and two as oil producers; one was abandoned.

In 1978 the provisional figure for metres drilled in petroleum exploration and development was 209,870 metres, 88 per cent more than that drilled in 1977; 111,289 metres were in exploration drilling of which 58,364 metres was offshore. Of the 92 wells completed in 1978, 55 were exploration wells, including 25 offshore. Compared with 1977 there was a rise of 34 in the number of exploration wells and an increase of 17 in the number of development wells drilled. There was also an increase of 9 in the number of offshore exploration wells. Of the exploration wells drilled, 6 were completed as oil producers, 3 as gas producers and 1 as an oil and gas producer, 16 of the development wells were completed as oil producers, 18 as gas producers and 3 were abandoned.

Nickel

A summary of the growth of the Australian nickel industry was published in the *Australian Mineral Industry Quarterly Review,* Vol. 28 No. 4.

Mine production of nickel in ore and concentrates was 82,359 tonnes in 1978, about 14 per cent of world mine production. Production commenced at Agnew, W.A., in 1978. The concentrates are toll-smeltered at the Kalgoorlie smelter, the capacity of which was increased.

Mineral sands

The history of the mineral sands industry is presented in the *Australian Mineral Industry Quarterly Review,* Vol. 25 No. 1.

Plans have be announced for considerable expansion in the Western Australian production capacity for the benefication of ilmenite. There has been increasing rationalisation in the industry by the amalgamation of operating companies, particularly in Western Australia.

Phosphate

Australia's only phosphate mine, at Duchess, Qld, closed for economic reasons on 30 June 1978. It is now on care and maintenance.

Uranium

The Australian Government has announced that uranium mining will go ahead, subject to controls. Mines are being developed at the Ranger and Nabarlek deposits in the Northern Territory, and construction of the pilot plant at the Yeelirrie deposit (W.A.) will commence in 1979.

Diamonds

Diamond exploration in the Kimberley region of Western Australia has resulted in the discovery of a number of kimberlite pipes. On the basis of diamonds found, Conzinc Riotinto of Australia has set up a pilot plant to treat kimberlite at Ashton, W.A.

REFERENCES

Further detailed statistics and information on the subjects dealt with in this chapter are contained in the annual printed publication *The Australian Mineral Industry Annual Review* and other publications issued by the Bureau of Mineral Resources, Geology and Geophysics, which also issues, in conjunction with the ABS a quarterly publication, *Australian Mineral Industry Quarterly Review* (8403.0). The annual ABS statistical publications, *Census of Mining Establishments, Summary of Operations, Australia* (*Preliminary*) (8401.0). *Census of Mining Establishments, Details of Operations, by Industry Class, Australia* (8402.0); *Mineral Production, Australia* (8405.0); *Mineral Exploration, Australia* (8407.0) and the irregular publications *Mining Industry, Foreign Ownership and Control* (5317.0) and *Foreign Control in Mineral Exploration* (5323.0), 2nd *Census of Mining Establishments, Industry Concentrations Statistics, Australia* (8411.0), contain economic statistics of the industry prepared and published as soon as possible after the data have been compiled. A monthly statistical publication, *Minerals and Mineral Products* (8404.0) is issued also, and other current statistics on mining or mine products are contained in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), and the monthly publication *Production Statistics, Australia* (8302.0).

CHAPTER 17

MANUFACTURING AND INTERNAL TRADE

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CHAPTER 17

MANUFACTURING AND INTERNAL TRADE

MANUFACTURING

Introduction

History

An historical summary of the development of the manufacturing industry in Australia since 1901 is contained in earlier issues of the Year Book.

Decentralisation and manufacturing industries

The decentralisation of secondary industries, and the steps taken by the Commonwealth and State Governments towards its development, are referred to in previous issues of the Year Book.

Bounties on manufacture

Bounties are paid by the Commonwealth Government to encourage local manufacture of certain products. The statutory provisions usually fix a term of operation of the bounty, provide for payment at a rate varying according to changes in the corresponding customs duty, specify the annual maximum amount of bounty payable, and require the bounty to be withheld or reduced if a manufacturer's net profit in production of the commodity exceeds a certain rate, or if rates of wages and conditions of employment in production of the commodity do not conform to prescribed standards. (*See* Chapter 22, Public Finance, for products on which bounties are paid.)

Government authorities

Industries Assistance Commission

The Industries Assistance Commission is a statutory authority which came into existence on 1 January 1974 as a result of a passing of the *Industries Assistance Commission Act* 1973 by the Australian Parliament. The Commission replaced the Tariff Board, which since 1921 had been responsible for advising the Government on assistance for industries mainly in the secondary sector of the economy. (The *Industries Assistance Commission Act* 1973 was amended in March 1978.)

The Commission is an advisory authority, advising the Government. Its functions are to hold inquiries and make reports to the Government in respect to matters of assistance to industries in the primary, secondary and tertiary sectors of the economy and in respect to other matters referred to the Commission by the Government. The Government is required to seek the Commission's advice before it makes changes in the long term assistance afforded industries; but the Government is not obliged to accept the Commission's advice.

References from the Government requiring the Commission to inquire and report on certain matters mainly arise from representations to the Government from organisations, companies or individuals seeking assistance. References are also initiated by the Government and the Commission itself has the power to initiate an inquiry.

The receipt of a reference from the Government is the official document directing the Commission to inquire and report on matters in accordance with the terms of reference and the guidelines as set by the Government.

Public hearings are held by the Commission in Canberra and in capital cities throughout Australia. At these hearings evidence is taken on oath or affirmation. The Act requires the Commission to take into consideration only sworn evidence. The inquiry subject and the date and location of public hearings are advertised in the press and advised by Commission circular.

If after receiving a report from the Commission, the Government decides that assistance afforded a particular industry should be changed, it introduces a proposal to this effect in Parliament. Thus the final responsibility for altering assistance given to particular industries within Australia rests with Parliament.

Copies of the Commission's reports, when released for publication by the Government, are sold by Australian Government Publishing Service bookshops.

The Commission is also required to report annually to the Government on its operations and on the general structure of industry assistance within Australia and its effects on the economy.

Temporary Assistance Authority

The Temporary Assistance Authority (TAA), which replaced the Special Advisory Authority set up under the Tariff Board Act, came into operation on 1 January 1974 under the provisions of the *Industries Assistance Commission Act* 1973 (since amended).

The main function of the TAA is to undertake inquiries and submit reports to the Government within 45 days of receipt of a reference from the Government on the question of whether urgent action is necessary to provide assistance to any industry that is experiencing difficulty due to the importation of specified goods. If urgent action is necessary the Authority recommends the nature and extent of the assistance to be provided.

The Authority's reports on individual inquiries are normally made public once the Government's decision is announced and are available, as is the annual report, from the Australian Government Publishing Service bookshops.

Bureau of Industry Economics

In September 1976, the Australian Government announced that the Bureau of Industry Economics would be established as a centre for research into the manufacturing and commerce sectors. The Bureau began operations in May 1977. Being formally attached to the Department of Industry and Commerce, it has professional independence in the conduct and reporting of its research.

The major objectives of the Bureau are to:

- carry out research work needed to assist the Government in the formation of industrial policy
- assist the Industries Assistance Commission (IAC) and other government bodies by making submissions on the results of its research
- attract a high standard of professional staff and publish its research findings
- complement the work of other research agencies and co-operate with universities and colleges in developing research programs.

The Bureau is also concerned with developments in mining, rural industry, public services (for example education, health, defence) and trade in goods and services which are linked with the manufacturing and commerce sectors.

A Council has been set up to advise the Minister of Industry and Commerce about the Bureau's work and to ensure that it is relevant to contemporary and long term issues in manufacturing and commerce. Members of the Council are drawn from a wide range of industries and backgrounds, including the universities and the trade union movement. In this way the Council of Advice provides a major link between the Bureau and the community. The Council assists with the development of the work of the Bureau and the effective dissemination of the results of the Bureau's work.

In its investigations, the Bureau principally makes use of economics and related disciplines. Technical and social factors affecting industry structure and performance are also taken into account.

The techniques of economic analysis used include supply and demand estimation, industry structure-performance relationships, input-output analysis, econometrics, cost-benefit methods and socio-demographic investigations. In addition, the Bureau is associated with the large-scale models of the Australian economy under development by the IMPACT team and at the Melbourne University Institute of Applied Economic and Social Research.

The staff of the Bureau includes officers with backgrounds in business, consultancy, government and university teaching and research. An initial nucleus of about 30 persons has been established and it is envisaged that additional recruitment will bring the size of the Bureau to about 100 persons within a few years.

Project control and resource commitments are determined by means of a feasibility study. Within the broad topic under investigation, several specific projects may be justified in relation to previous research findings, data availability, relevance to long-term policy issues and overall budget constraints. Some projects require special surveys where existing data sources are inadequate or more detailed information is required for particular industries. In certain projects the Bureau will undertake joint research with organisations in the private sector and consultants may be engaged where this will significantly enhance the quality of the research or will remedy any lack of in-house expertise.

When initial findings are available, work-in-progress papers are prepared to discuss the methods employed and to ensure that specialist qualified observers have an opportunity to comment on objectives of the research programme. Final reports on projects will be widely distributed with the aim of informing industry groups, government policy makers and teaching and research institutions about industrial and commercial developments.

Standardisation

The *Commonwealth Scientific and Industrial Research Organization* has functions concerned with the improvement of efficiency in industrial operations. For further particulars *see* Chapter 25, Science and Technology, in this Year Book.

The *Standards Association of Australia* is the organisation responsible for the preparation, on a national basis, of Australian standards for materials and products and standard codes of practice.

Formed as the Australian Commonwealth Engineering Standards Association in 1922, it was reconstituted as the Standards Association of Australia in 1929, and was incorporated by Royal Charter in 1950. It is an independent body having the full recognition and support of the Commonwealth and State Governments and of industry. Approximately half its funds are provided by Commonwealth Government grant, the remainder coming primarily from membership subscriptions and from the sale of publications. Organisations, companies, and individuals are eligible for subscribing membership.

The Association is controlled by a Council comprising representatives from Commonwealth and State Governments and their departments, from associations of manufacturing and commercial interests, and from professional institutions. Standards are prepared by committees composed of expert representatives from the interests associated with the subject under consideration. This assistance is on a voluntary basis.

Preparation of a standard is undertaken in response to a request from any responsible source, subject to verification that the standard will meet a genuine need. Standards may relate to one or more of several aspects of industrial practice such as terminology, test methods, dimensions, specifications of performance and quality of products, and safety or design codes. In general, standards derive authority from voluntary adoption based on their intrinsic merit, but in many cases where safety of life or property or consumer protection is involved, they may have compulsory application through statutory reference.

The Association is the owner of a registered certification trade mark covering conformity of products to standards. Manufacturers of products covered by Australian standards may obtain a licence to use the Australian Standard Mark, under conditions established by the Association.

The Association has international affiliations and is a member, representing Australia, of the International Organization for Standardization (ISO) and of the International Electrotechnical Commission (IEC). Close links are maintained with overseas standards organisations, and the Association acts as Australian agent for the procurement of ISO and IEC publications and the standards of other countries.

The Association has two specialised libraries, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organisations. These libraries provide necessary material for committee work and a free information service to those concerned with standards.

The headquarters office of the Association is in Sydney, and there is a major branch office in Melbourne. Branch offices are located also in other capital cities and at Newcastle, New South Wales.

The *National Standards Commission* was established in 1948 and is presently located at North Ryde, Sydney. The original purpose was to advise the Minister for Science and the Environment on matters relating to weights and measures. It operated under the *Weights and Measures (National Standards) Act*, 1948. This was replaced in 1960 with a new Act which took account of advances in measuring technology and its impact in Australia. Amendments to the 1960 Act were made in 1966 and 1978. The present role of the Commission provides for the establishment and use throughout Australia of uniform units of measurement, uniform standards of measurement of physical quantities and for the examination and approval of the patterns of measuring instruments used for trade in order to control design and quality.

The Commission has close contacts with all States and Territorial weights and measures authorities who ensure by regular inspections that trade instruments continue to comply with the approved patterns.

Close liaison is also maintained with the manufacturing industry, retailers, consumers and other users to ensure a balance between design, quality and cost.

The Commission has regular contacts overseas and provides the Australian member accredited to the International Organisation of Legal Metrology.

The present staff is 28, most of whom are technically qualified. The Commission is directed by a board of five part-time Commissioners.

The *National Association of Testing Authorities* (NATA) organises testing facilities throughout Australia to serve private and governmental needs. Membership is open to authorities whose testing laboratories conform to the standards of staffing and operations defined by the Association. Testing authorities may register their laboratories voluntarily. The Association assesses the competence of the laboratories and ensures that their standards of competence are maintained. Certificates of test issued by registered laboratories may be endorsed in the name of the Association. NATA endorsed test certificates are generally accepted by governmental, industrial and commercial interests.

Laboratories are registered for performance of specific tests in the fields of acoustic and vibration measurement, biological testing, chemical testing, electrical testing, heat and temperature measurement, mechanical testing, metrology, non-destructive testing and optics and photometry.

The *Industrial Design Council of Australia* (IDCA) is engaged in activities aimed at encouraging better design in Australian-made goods and fostering a wider appreciation of good design throughout the community. The Council is representative of industry, commerce and government, together with designers and educationists. It is financed by donations from industry and commerce, and by Commonwealth and State Government grants.

The Council's Field Advisory Service has a diagnostic and counselling role, assisting smaller manufacturers throughout Australia with product development policy and direction. Field advisers are based in IDCA State offices in Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart.

The Australian Design Award is granted for high-quality products of Australian design and manufacture. An index of these products is held in each State office. These products are also displayed in Australian Design Centres.

Regular contact is maintained with senior executives of manufacturing companies, departmental officers and designers through the Design Delegate program of lectures. Inquirers seeking professional design services are referred to qualified industrial designers. The Council is also concerned with raising the standard of training in industrial design in co-operation with education authorities.

The Council's National Secretariat is in Melbourne.

The *Australian Standard Commodity Classification* (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a large number of cases, however, due to the differences between production, import and export items, comparatibility is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the Australian Standard Industrial Classification (ASIC)) in which they are typically produced.

The first edition of the ASCC was restricted to commodities originating in manufacturing industries. The second edition, which relates to the year 1977–78 is to be published in 1980, has been amended to also include commodities originating in the agriculture, forestry, fishing, hunting and mining industries.

The classification will continue to be developed over the coming years to improve the alignment between production, imports and exports.

The ABS also publishes a statistical publication *Comparable Commodity Statistics of Production, Imports and Exports, Australia* (1310.0) containing commodity statistics of Australian production, imports and exports based on the standard (ASCC) items contained in the ASCC manual. The second edition of this publication which is to be published in 1980 relates to the year 1977–78 and will contain Australian production, import and export commodity statistics of manufactured goods classified in accordance with the standard (ASCC) items in the second edition of the ASCC manual.

The *Australian Standard Industrial Classification* (ASIC) (1201.0 and 1202.0) was developed by the ABS as part of its program for the integration of economic statistics. Since its introduction by the ABS in the processing of the 1969 Integrated Economic Censuses, the ASIC has gained a wide acceptance by users of statistics outside the ABS and has been progressively applied in most ABS collections and compilations where data are classified by industry.

The ASIC has been devised for the purpose of classifying statistical units by industry. It has been designed primarily as a system for the classification of establishments (e.g. individual mines, factories, shops, etc.) although it may also be used for classifying other economic units such as enterprises.

The fundamental concept of this classification system is that an industry (i.e. on individual class, group, etc.) in the ASIC is composed of establishments that have been classified to it. Each industry class is defined in terms of the predominant activities of the establishment classified to it and these activities are specified in the ASIC as *primary activities* of the individual industry classes. These industry definitions are revised only at relatively infrequent intervals so as to minimise the disruption to time series data assembled on an ASIC basis.

As a result of a recent comprehensive review of the classification, the 1978 Edition of ASIC has recently been published. This revised edition is being progressively introduced in all relevant ABS collections.

Productivity Action

For information about the Productivity Group Movement and Productivity Promotion Council of Australia *see* Chapter 25, Science and Technology.

Manufacturing industry statistics

Manufacturing industry statistics from 1901 to 1967-68

A series of substantially uniform statistics exist from 1901 up until 1967-68 when the framework within which manufacturing statistics were collected was changed. The following table contains a summary of statistics on manufacturing activities in Australia over that period. More detailed manufacturing statistics in respect of this period were included in Year Book No. 57, pages 721-9, and in earlier issues.

MANUFACTURING INDUSTRY: AUSTRALIA(*a*), 1901 TO 1967-68

Year	Factories	Employment(*b*)	Salaries and wages paid(*c*)	Value of— Materials and fuel used	Output	Production (*d*)	Land and buildings (*e*)	Plant and machinery (*e*)
	No.	'000	$'000	$'000	$'000	$'000	$'000	$'000
1901 . .	11,143	198	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1911 . .	14,455	312	55,056	163,526	266,044	102,518	65,402	63,032
1920-21 .	17,113	367	125,864	427,118	647,986	220,868	121,662	137,310
1930-31 .	21,751	339	124,910	344,978	581,598	236,620	224,422	248,996
1940-41 .	27,300	650	275,838	773,762	1,289,590	515,828	288,188	322,712
1950-51 .	43,147	969	983,436	2,613,926	4,301,670	1,687,744	605,570	673,230
1960-61 .	57,782	1,145	2,289,230	6,115,930	10,465,765	4,349,835	2,389,140	2,785,565
1963-64 .	59,375	1,210	2,651,620	7,372,682	12,642,686	5,270,003	3,204,685	3,480,673
1964-65 .	61,042	1,269	2,993,709	8,140,600	14,037,355	5,896,754	3,505,859	3,766,253
1965-66 .	61,686	1,294	3,162,769	8,437,958	14,689,819	6,251,861	3,776,590	4,154,652
1966-67 .	62,500	1,309	3,407,683	9,015,844	15,892,845	6,877,001	4,061,193	4,706,843
1967-68 .	62,954	1,331	3,665,902	9,663,217	17,094,070	7,430,853	4,303,156	4,962,203

(*a*) Before 1 July 1964, excludes Northern Territory and Australian Capital Territory. (*b*) 1901 and 1911—average employment during period of operation. Later years relate to average employment over whole year. Working proprietors are included in all years. (*c*) Excludes amounts drawn by working proprietors. (*d*) Value added in process of manufacture (i.e. value of output less value of materials and fuel, etc. used). (*e*) Depreciated or book values at 30 June. Includes estimated values of rented premises and machinery.

Manufacturing industry statistics from 1968-69

As from the year ended June 1969, the Censuses of Manufacturing, Electricity and Gas have been conducted within the framework of the integrated economic censuses which include the Censuses of Mining, Retail Trade and Selected Services, and Wholesale Trade. As a result, manufacturing industry statistics for 1968-69 and subsequent years are not directly comparable with previous years.

The standardisation of census units in the integration of economic censuses means that the basic census unit (the establishment), in general, now covers all the operations carried on under the one ownership at a single physical location. The manufacturing establishment is thus one predominantly engaged in manufacturing, but the data supplied for it now cover (with a few exceptions) all activities at the location. The establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the business (enterprise) which owns and operates the establishment.

Census units were classified to industry according to the Australian Standard Industrial Classification (ASIC), described in the Bureau publication *Australian Standard Industrial Classification.* The ASIC defines the industries in the economy for statistical purposes, thus permitting the scope of the different economic censuses to be specified without gaps or overlapping between them. It also sets out standard rules for identifying the statistical units (e.g. establishments) and for coding them to the industries of the classification. This classification is broadly convertible to the International Standard Industrial Classification adopted by the United Nations Statistical Commission. The adoption of the ASIC has resulted in changes in scope between the integrated economic censuses introduced in 1968-69 and the individual economic censuses conducted in previous years.

In the 1967-68 census there were approximately 62,600 manufacturing establishments (excluding electricity and gas establishments) with employment of 1,276,000. Of these, approximately 35,400, with employment of 1,097,000 would have been included in the 1967-68 census if ASIC had been used.

MANUFACTURING ESTABLISHMENTS: SUMMARY OF OPERATIONS, AUSTRALIA, 1968-69 to 1977-78

Census year	*Establishments at 30 June*	*Average employment over whole year (a)*			*Wages and salaries (b)*	*Turnover*	*Stocks*		*Purchases, transfers in and selected expenses*	*Value added*	*Rent and leasing expenses*	*Fixed capital expenditure less disposals*
		Males	*Females*	*Persons*			*Opening*	*Closing*				
	No.	No.	No.	No.	$m	$m	$m	$m	$m	$m	$m	$m
1968–69 .	35,939	927,211	334,066	1,261,277	3,908.1	18,646.5	3,102.5	3,319.6	11,395.2	7,468.5	119.7	903.0
1969–70 .	35,674	950,055	345,578	1,295,633	4,328.7	20,687.6	3,322.8	3,634.7	12,722.9	8,276.5	139.4	1,030.7
1970–71 .	No manufacturing census was conducted in respect of this year.											
1971–72 .	36,206	953,967	347,672	1,301,639	5,250.0	23,620.4	3,920.1	4,182.5	14,186.3	9,696.6	188.5	1,297.8
1972–73 .	36,437	951,610	345,485	1,297,095	5,820.0	26,352.4	4,187.2	4,306.3	15,745.6	10,725.9	217.4	1,244.4
1973–74 .	37,143	969,338	369,041	1,338,379	7,176.4	31,246.7	4,299.1	5,268.5	19,067.0	13,149.1	262.8	1,215.5
1974–75(*c*)	36,836	931,367	333,440	1,264,807	8,588.0	35,468.0	5,267.2	6,572.2	21,382.7	15,390.3	329.6	1,456.4
1974–75(*d*)	26,973	916,896	328,341	1,245,237	8,533.5	35,133.7	5,241.0	6,542.7	21,203.8	15,231.6	318.5	1,445.9
1975–76 .	27,507	888,523	311,917	1,200,440	9,472.4	39,485.3	6,581.1	7,023.3	23,006.5	16,921.0	365.2	1,451.7
1976–77 .	26,780	876,111	299,720	1,175,831	10,535.8	44,814.3	6,985.1	7,996.8	26,591.8	19,234.3	418.2	1,548.0
1977–78(*e*)	25,996	855,567	290,390	1,145,957	11,150.9	48,184.1	7,889.2	8,511.5	28,574.4	20,231.9	492.1	1,872.9
1977–78(*f*)	26,064	854,180	290,378	1,144,558	11,137.8	48,081.2	7,863.8	8,500.1	28,486.0	20,231.4	493.3	1,880.2

(*a*) Including working proprietors. (*b*) Excluding the drawings of working proprietors. (*c*) This data and that of previous years includes the data of all manufacturing establishments. (*d*) These data and those of following years exclude single establishment manufacturing enterprises with fewer than four persons employed. (*e*) These data and those of previous years are classified to the 1969 (preliminary) edition of ASIC. (*f*) These data are classified to the 1978 edition of ASIC.

The items of data on the census forms were standardised for all census sectors, which has meant changes in the content of the statistics. For example, the value of ‘turnover’ is now collected instead of the ‘value of output’ at the factory, and purchases and selected expenses are collected as well as the value of specified materials, fuels, etc., used. However the underlying concept of ‘value added’, is similar to the former concept ‘value of production’, even though its method of derivation is different.

Even though the concept of ‘value added’ is similar to ‘value of production’, direct comparison of 1968–69 and previous figures is not possible because of the change in census units already mentioned which has resulted in the ‘value added’ for the whole establishment being reported, not merely the ‘value added’ for the manufacturing process. Comparison is also affected, of course, by the change in the scope of the manufacturing census due to the adoption of ASIC. In addition, ‘value added’ as calculated for the Manufacturing Census differs from the concept used in National Accounts where the concept of ‘value added’ also excludes some administrative expenses and sundry charges and the change in stocks component is measured by valuing the physical change in stocks at current prices. It is not practicable in the Manufacturing Census to collect data fully in accord with the national accounts concept of ‘value added’.

For a more detailed description of the Integrated Economic Censuses reference should be made to Year Book No. 56, Chapter 31.

Since the introduction of the system of integrated economic censuses the comparability of manufacturing census data has been affected by two additional changes to collection practices:

(i) Commencing with the 1975–76 Manufacturing Census, only a limited range of data (i.e. employment and wages and salaries) is collected from single establishment manufacturing enterprises with less than four persons employed. This procedure significantly reduced both the statistical reporting obligations of small businesses and the collecting and processing costs of the Australian Bureau of Statistics without affecting the reliability of information for the evaluation of trends in the manufacturing sector of the economy (as these small enterprises contribute only marginally to statistical aggregates. In order to provide a link with past and future years, 1974–75 data was processed on both bases.

(ii) Commencing with the 1977–78 census the classification of census units to industry is based on the 1978 edition of the ASIC which replaces the 1969 preliminary edition in use since the 1968–69 census. In general the impact of the change in industrial classification is minimal at the ASIC Division and Subdivision levels. A document fully describing the differences between the 1969 and 1978 editions of the ASIC is available on request from the Australian Bureau of Statistics.

Multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed

Main structural aggregates relating to number of establishments, employment, wages and salaries, turnover, purchases, transfers in and selected expenses, stocks, and value added are shown in the following tables. Further detailed statistics are contained in the following ABS statistical publications: *Manufacturing Establishments, Details of Operations by Industry Class, Australia* (8203.0), *Manufacturing Establishments, Summary of Operations by Industry Class, Australia* (8202.0) and *Manufacturing Establishments: Selected Items of Data Classified by Industry and Employment Size, Australia* (8204.0).

Summary of operations

The following table shows the summary of operations for manufacturing establishments.

MANUFACTURING ESTABLISHMENTS–SUMMARY OF OPERATIONS BY INDUSTRY SUB-DIVISION: AUSTRALIA 1976–77 AND 1977–78

Industry sub-division		*Establishments operating at 30 June*	*Average employment over whole year (a)*			*Wages and salaries (b)*	*Turnover*	*Stocks at 30 June*		*Purchases, transfers in and selected expenses*	*Value added*	*Rent and leasing expenses*	*Fixed capital expenditure less disposals*
ASIC code	*description*	*No.*	*Males No.*	*Females No.*	*Persons No.*	*$m*	*$m*	*Opening $m*	*Closing $m*	*$m*	*$m*	*$m*	*$m*
						1976–77(*c*)							
21–2	Food, beverages and tobacco	3,382	144,401	51,480	195,881	1,757	9,652	1,048	1,175	6,277	3,502	67	384
23	Textiles	667	22,247	16,938	39,185	324	1,393	268	278	840	563	13	26
24	Clothing and footwear	2,301	19,294	64,726	84,020	581	1,824	289	310	951	894	24	15
25	Wood, wood products and furniture	3,956	66,580	11,303	77,883	603	2,349	304	352	1,280	1,118	34	82
26	Paper and paper products, printing	2,603	71,550	25,835	97,385	910	3,134	364	432	1,587	1,614	40	114
27	Chemical petroleum and coal products	912	44,522	15,907	60,429	640	3,663	588	681	2,291	1,465	22	171
28	Non-metallic mineral products	1,535	42,696	4,900	47,596	487	2,036	246	310	1,100	999	15	100
29	Basic metal products	549	87,171	6,723	93,894	994	5,626	1,112	1,293	3,828	1,978	48	249
31	Fabricated metal products	3,901	82,539	20,274	102,813	882	3,237	506	562	1,753	1,541	44	79
32	Transport equipment	1,285	126,047	17,184	143,231	1,309	4,709	771	972	2,785	2,126	25	140
33	Other machinery and equipment	3,682	125,957	42,243	168,200	1,491	5,078	1,170	1,276	2,740	2,444	58	124
34	Miscellaneous manufacturing	2,007	43,107	22,207	65,314	558	2,118	320	358	1,166	990	30	64
	Total manufacturing	**26,780**	**876,111**	**299,720**	**1,175,831**	**10,536**	**44,818**	**6,985**	**7,997**	**26,596**	**19,234**	**418**	**1,548**
						1977–78 (*c*)							
21–2	Food, beverages and tobacco	3,272	143,713	50,405	194,118	1,878	10,705	1,168	1,298	7,082	3,754	78	409
23	Textiles	642	21,090	16,176	37,266	337	1,457	272	277	876	585	15	27
24	Clothing and footwear	2,137	19,189	61,809	80,998	613	1,978	305	329	1,036	967	26	20
25	Wood, wood products and furniture	3,747	64,156	11,304	75,460	622	2,436	338	354	1,321	1,131	39	53
26	Paper and paper products, printing	2,572	71,147	26,091	97,238	1,005	3,498	420	437	1,751	1,763	44	133
27	Chemical, petroleum and coal products	897	45,372	16,072	61,444	717	4,147	690	782	2,551	1,690	29	347
28	Non-metallic mineral products	1,573	41,587	4,936	46,523	515	2,160	307	354	1,169	1,038	20	131
29	Basic metal products	539	85,168	6,503	91,671	1,090	5,851	1,291	1,415	4,006	1,970	55	272
31	Fabricated metal products	3,802	81,485	20,083	101,568	923	3,514	561	612	1,922	1,643	51	71
32	Transport equipment	1,250	119,605	15,487	135,092	1,350	4,858	942	956	2,840	2,032	29	189
33	Other machinery and equipment	3,565	120,904	39,880	160,784	1,537	5,287	1,224	1,314	2,780	2,598	70	136
34	Miscellaneous manufacturing	2,001	42,178	21,662	63,840	566	2,303	362	385	1,262	1,064	36	83
	Total manufacturing	**25,997**	**855,594**	**290,408**	**1,146,002**	**11,152**	**48,195**	**7,880**	**8,513**	**28,595**	**20,235**	**492**	**1,874**

For footnotes *see* end of table.

MANUFACTURING ESTABLISHMENTS—SUMMARY OF OPERATIONS BY INDUSTRY SUB-DIVISION: AUSTRALIA 1976-77 AND 1977-78—*continued*

Industry sub-division *ASIC code*	*description*	*Establishments operating at 30 June No.*	*Average employment over whole year (a)*			*Wages and salaries (b) $m*	*Turnover $m*	*Stocks at 30 June*		*Purchases, transfers in and selected expenses $m*	*Value added $m*	*Rent and leasing expenses $m*	*Fixed capital expenditure less disposals $m*
			Males No.	*Females No.*	*Persons No.*			*Opening $m*	*Closing $m*				
	1977-78 (*d*)												
21	Food, beverages and tobacco	3,358	143,998	51,340	195,338	1,884	10,825	1,176	1,305	7,186	3,768	79	414
23	Textiles	634	21,021	16,160	37,181	337	1,442	272	276	864	581	15	27
24	Clothing and footwear	2,136	19,203	61,910	81,113	614	1,980	306	330	1,037	968	26	20
25	Wood, wood products and furniture	3,751	63,916	11,227	75,143	621	2,431	338	354	1,319	1,129	39	53
26	Paper, paper products, printing and publishing	2,573	71,117	26,027	97,144	1,005	3,481	420	436	1,735	1,763	44	133
27	Chemical, petroleum and coal products	873	45,649	16,082	61,731	720	4,154	694	786	2,549	1,697	29	349
28	Non-metallic mineral products	1,573	41,412	4,926	46,338	513	2,155	306	353	1,166	1,036	20	132
29	Basic metal products	508	82,313	6,248	88,561	1,050	5,518	1,240	1,366	3,736	1,908	54	268
31	Fabricated metal products	3,829	82,977	20,324	103,301	941	3,635	585	638	2,006	1,681	51	73
32	Transport equipment	1,248	119,550	15,421	134,971	1,350	4,858	942	956	2,840	2,032	30	189
33	Other machinery and equipment	3,558	120,684	39,675	160,359	1,533	5,271	1,222	1,312	2,769	2,592	70	137
34	Miscellaneous manufacturing	2,023	42,340	21,038	63,378	571	2,333	365	387	1,279	1,077	36	83
	Total manufacturing	**26,064**	**854,180**	**290,378**	**1,144,558**	**11,138**	**48,081**	**7,864**	**8,500**	**28,486**	**20,231**	**493**	**1,880**

(*a*) Includes working proprietors. (*b*) Excludes the drawings of working proprietors. (*c*) Based on 1969 edition of ASIC. (*see* page 442).
(*d*) Based on 1978 edition of ASIC. (*see* page 442).

Employment

The statistics on the number of persons employed shown in the following table relate to the average whole year employment, including working proprietors and those persons working at separately located administrative offices and ancillary units in the State.

It should be noted that persons employed in each State (and their wages and salaries) relate to those employed at establishments, administrative offices or ancillary units located in that State, even though the administrative offices or ancillary units may have served establishments located in another State.

MANUFACTURING ESTABLISHMENTS—MALES, FEMALES AND PERSONS EMPLOYED BY INDUSTRY SUB-DIVISION, 1977-78(*a*), AND TOTAL MANUFACTURING 1976-77, 1977-78(*b*)

Industry sub-division *ASIC code*	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
	MALES EMPLOYED									
21	Food, beverages and tobacco	46,241	42,425	28,239	12,777	9,581	4,209	183	343	143,998
23	Textiles	6,119	11,238	640	1,458	477	1,089	–	–	21,021
24	Clothing and footwear	5,889	11,231	768	1,008	239	68	–	–	19,203
25	Wood, wood products and furniture	20,582	16,120	9,563	7,258	6,320	3,673	64	336	63,916
26	Paper, paper products, printing and publishing	25,845	23,300	6,903	5,378	4,068	4,676	86	861	71,117
27	Chemical, petroleum and coal products	20,565	15,874	2,917	2,328	2,800	n.p.	752	181	45,649
28	Non-metallic mineral products	14,932	11,177	5,795	3,746	4,588	880			41,412
29	Basic metal products	48,539	11,205	5,360	8,438	4,971	3,162			82,313
31	Fabricated metal products	30,076	28,097	8,841	7,108	6,996	1,378	113	368	82,977
32	Transport equipment	32,863	49,775	10,622	20,158	5,581	n.p.	82	153	119,550
33	Other machinery and equipment	51,271	41,605	7,975	12,464	6,321	842			120,684
34	Miscellaneous manufacturing	15,346	18,681	2,690	3,870	1,394	349			42,340
	Total manufacturing									
	1977-78(*a*)	**318,268**	**280,728**	**90,313**	**85,991**	**53,336**	**22,022**	**1,280**	**2,242**	**854,180**
	1977-78(*b*)	319,172	280,489	90,485	86,097	53,596	22,177	1,280	2,298	855,594
	1976-77(*b*)	325,159	288,743	90,975	89,917	54,337	23,042	1,369	2,569	876,111

For footnotes *see* end of table.

MANUFACTURING ESTABLISHMENTS—MALES, FEMALES AND PERSONS EMPLOYED BY INDUSTRY SUB-DIVISION, 1977–78(*a*), AND TOTAL MANUFACTURING 1976–77, 1977–78(*b*)—*continued*

Industry sub-division										
ASIC code	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
	FEMALES EMPLOYED									
21	Food, beverages and tobacco	16,395	15,809	7,546	5,445	4,053	1,923	53	116	51,340
23	Textiles	4,818	8,222	612	1,034	287	1,187	—	—	16,160
24	Clothing and footwear	21,024	33,781	3,140	2,616	1,189	160	—	—	61,910
25	Wood, wood products and furniture	3,807	2,969	1,727	1,226	1,178	258	9	53	11,227
26	Paper, paper products, printing and publishing	10,853	8,354	2,249	1,891	1,638	690	37	315	26,027
27	Chemical, petroleum and coal products	9,263	5,300	580	475	391	np	90	15	16,082
28	Non-metallic mineral products	1,895	1,773	426	353	390	62			4,926
29	Basic metal products	3,420	1,270	297	736	333	114			6,248
31	Fabricated metal products	7,940	7,174	2,018	1,687	1,202	199	28	76	20,324
32	Transport equipment	3,350	8,982	606	2,069	285	n.p.	1	51	15,421
33	Other machinery and equipment	18,966	13,815	1,168	4,641	941	99			39,675
34	Miscellaneous manufacturing	9,003	8,572	1,027	1,862	517	52			21,038
	Total manufacturing									
	1977–78(*a*)	**110,734**	**116,021**	**21,396**	**24,035**	**12,404**	**4,944**	**218**	**626**	**290,378**
	1977–78(*b*)	111,499	115,788	21,395	23,754	12,204	4,851	218	699	290,408
	1976–77(*b*)	113,737	120,453	21,782	25,477	12,413	4,724	255	879	299,720
	PERSONS EMPLOYED									
21	Food, beverages and tobacco	62,636	58,234	35,785	18,222	13,634	6,132	236	459	195,338
23	Textiles	10,937	19,460	1,252	2,492	764	2,276	—	—	37,181
24	Clothing and footwear	36,913	45,012	3,908	3,624	1,428	228	—	—	81,113
25	Wood, wood products and furniture	24,389	19,089	11,290	8,484	7,498	3,931	73	389	75,143
26	Paper, paper products, printing and publishing	36,698	31,654	9,152	7,269	5,706	5,366	123	1,176	97,144
27	Chemical, petroleum and coal products	29,828	21,174	3,497	2,803	3,191	n.p.			61,731
28	Non-metallic mineral products	16,827	12,950	6,221	4,099	4,978	942	842	196	46,338
29	Basic metal products	51,959	12,475	5,657	9,174	5,304	3,276			88,561
31	Fabricated metal products	38,016	35,271	10,859	8,795	8,198	1,577	141	444	103,301
32	Transport equipment	36,213	58,757	11,228	22,227	5,866	n.p.			134,971
33	Other machinery and equipment	70,237	55,420	9,143	17,105	7,262	941	83	204	160,359
34	Miscellaneous manufacturing	24,349	27,253	3,717	5,732	1,911	401			63,378
	Total manufacturing									
	1977–78(*a*)	**429,002**	**396,749**	**111,709**	**110,026**	**65,740**	**26,966**	**1,498**	**2,868**	**1,144,558**
	1977–78(*b*)	430,671	396,277	111,880	109,851	65,800	27,028	1,498	2,997	1,146,002
	1976–77(*b*)	438,896	409,196	112,757	115,394	66,750	27,766	1,624	3,448	1,175,831

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442).

Wages and salaries

The following table shows wages and salaries of all employees of manufacturing establishments including those working at separately located administrative offices and ancillary units in the State. Drawings of working proprietors are not included.

MANUFACTURING ESTABLISHMENTS—WAGES AND SALARIES BY INDUSTRY SUB-DIVISION, 1977-78 (*a*) AND TOTAL MANUFACTURING 1976-77, 1977-78 (*b*)

($ million)

Industry sub-division										
ASIC code	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
21	Food, beverages and tobacco	631	571	342	155	128	49	2	5	1,884
23	Textiles	102	176	10	23	7	19	–	–	337
24	Clothing and footwear	205	343	27	29	9	1	–	–	614
25	Wood, wood products and furniture	209	157	86	70	60	35	1	4	621
26	Paper, paper products, printing and publishing	385	336	86	71	54	58	1	13	1,005
27	Chemical, petroleum and coal products	347	249	39	32	39	n.p.	11	2	720
28	Non-metallic mineral products	192	145	67	43	51	10			513
29	Basic metal products	622	149	66	97	67	39			1,050
31	Fabricated metal products	348	333	93	75	74	13	1	4	941
32	Transport equipment	377	590	105	215	56	n.p.	1	2	1,350
33	Other machinery and equipment	682	533	84	155	69	8			1,533
34	Miscellaneous manufacturing	221	249	30	51	16	4			571
	Total manufacturing									
	1977-78(*a*)	**4,322**	**3,831**	**1,035**	**1,015**	**629**	**258**	**18**	**30**	**11,138**
	1977-78(*b*)	4,324	3,829	1,036	1,016	639	260	18	30	11,152
	1976-77(*b*)	4,027	3,656	982	981	595	246	18	31	10,536

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442).

Turnover

The following table shows the value of turnover of manufacturing establishments. The figures include sales of goods whether produced by the establishment or not, transfers out of goods to other establishments of the same enterprise; bounties and subsidies on production; plus all other operating revenue from outside the enterprise, such as commission, repair and service revenue and the value of capital work done on own account. Rents, leasing revenue, interest (other than hire purchase), royalties and receipts from the sale of fixed tangible assets are excluded.

MANUFACTURING ESTABLISHMENTS—TURNOVER, BY INDUSTRY SUB-DIVISION, 1977-78 (*a*) AND TOTAL MANUFACTURING 1976-77, 1977-78 (*b*)

($ million)

Industry sub-division										
ASIC code	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
21	Food, beverages and tobacco	3,407	3,477	2,019	830	748	318	12	14	10,825
23	Textiles	495	710	38	97	28	74	–	–	1,442
24	Clothing and footwear	727	1,073	72	84	20	4	–	–	1,980
25	Wood, wood products and furniture	822	618	316	279	221	159	3	13	2,431
26	Paper, paper products, printing and publishing	1,356	1,165	286	243	167	226	4	34	3,481
27	Chemical, petroleum and coal products	1,994	1,216	493	157	224	n.p.	116	18	4,154
28	Non-metallic mineral products	730	586	318	199	249	47			2,155
29	Basic metal products	2,726	773	634	428	611	238			5,518
31	Fabricated metal products	1,334	1,196	410	308	313	52	8	14	3,635
32	Transport equipment	1,097	2,440	494	671	135	n.p.	3	6	4,858
33	Other machinery and equipment	2,331	1,886	304	486	233	23			5,271
34	Miscellaneous manufacturing	887	1,032	137	186	75	15			2,333
	Total manufacturing									
	1977-78(*a*)	**17,906**	**16,171**	**5,524**	**3,967**	**3,023**	**1,246**	**145**	**99**	**48,081**
	1977-78(*b*)	17,912	16,170	5,529	3,983	3,080	1,277	145	99	48,195
	1976-77(*b*)	16,433	15,040	5,261	3,768	2,888	1,199	124	104	44,818

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442).

Purchases, transfers in and selected expenses

The following table gives details of the value of purchases, transfers in and selected expenses. Figures include purchases of materials, fuel, power, containers, etc., plus transfers in of goods from other establishments of the enterprise, plus charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments.

MANUFACTURING ESTABLISHMENTS—PURCHASES, TRANSFERS IN AND SELECTED EXPENSES, BY INDUSTRY SUB-DIVISION, 1977-78(*a*) AND TOTAL MANUFACTURING 1976-77, 1977-78(*b*)

($ million)

Industry sub-division										
ASIC code	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
21	Food, beverages and tobacco	2,254	2,339	1,344	531	504	201	6	6	7,186
23	Textiles	303	420	22	65	17	38	–	–	864
24	Clothing and footwear	409	551	31	37	7	2	–	–	1,037
25	Wood, wood products and furniture	438	335	167	166	117	88	2	6	1,319
26	Paper, paper products, printing and publishing	675	604	143	115	74	111	1	12	1,735
27	Chemical, petroleum and coal products	1,156	723	398	96	137	n.p.	76	13	2,549
28	Non-metallic mineral products	392	299	179	108	137	31			1,166
29	Basic metal products	1,730	486	448	299	532	173			3,736
31	Fabricated metal products	728	240	238	178	182	30	5	7	2,006
32	Transport equipment	541	1,510	294	429	57	n.p.	1	2	2,840
33	Other machinery and equipment	1,214	1,005	162	250	125	11			2,769
34	Miscellaneous manufacturing	484	561	78	99	46	11			1,279
	Total manufacturing									
	1977-78(*a*)	**10,322**	**9,473**	**3,503**	**2,373**	**1,937**	**742**	**91**	**46**	**28,486**
	1977-78(*b*)	10,324	9,476	3,506	2,393	2,000	758	91	46	28,593
	1976-77(*b*)	9,599	8,696	3,382	2,280	1,809	694	84	47	26,592

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442).

Stocks

Statistics on the value of opening and closing stocks at 30 June are shown in the following table. Figures included all the stocks of materials, fuels, etc., and finished goods and work-in-progress of the establishment whether located at the establishment or elsewhere.

MANUFACTURING ESTABLISHMENTS—OPENING AND CLOSING STOCKS BY INDUSTRY SUB-DIVISION, 1977-78(*a*) AND TOTAL MANUFACTURING 1976-77, 1977-78(*b*)

($ million)

Industry sub-division										
ASIC code	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T*	*A.C.T.*	*Aust.*
	OPENING STOCKS AT 30 JUNE									
21	Food, beverages and tobacco	381	407	124	173	50	40	1	–	1,176
23	Textiles	92	141	8	14	4	13	–	–	272
24	Clothing and footwear	103	169	13	18	2	–	–	–	306
25	Wood, wood products and furniture	106	82	42	48	27	31	–	1	338
26	Paper, paper products, printing and publishing	163	145	33	25	19	31	–	3	420
27	Chemical, petroleum and coal products	374	202	53	17	35	n.p.	42	1	694
28	Non-metallic mineral products	125	73	44	26	32	5			306
29	Basic metal products	620	152	111	111	133	71			1,240
31	Fabricated metal products	204	215	58	53	42	8	2	3	585
32	Transport equipment	199	462	101	159	17	n.p.	–	1	942
33	Other machinery and equipment	524	473	68	108	44	3			1222
34	Miscellaneous manufacturing	134	176	18	25	8	3			365
	Total manufacturing									
	1977-78(*a*)	**3,026**	**2,696**	**674**	**779**	**411**	**224**	**45**	**9**	**7,864**
	1977-78(*b*)	3,027	2,696	674	784	415	229	45	9	7,880
	1976-77(*b*)	2,672	2,451	579	680	352	204	35	11	6,985

For footnotes *see* end of table.

MANUFACTURING ESTABLISHMENTS—PURCHASES, TRANSFERS IN AND SELECTED EXPENSES, BY INDUSTRY SUB-DIVISION, 1977–78(*a*) AND TOTAL MANUFACTURING 1976–77, 1977–78(*b*)—*continued*
($ million)

Industry sub-division *ASIC code*	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T*	*A.C.T.*	*Aust.*
	CLOSING STOCKS AT 30 JUNE									
21	Food, beverages and tobacco	416	464	141	189	55	38	1	–	1,305
23	Textiles	83	144	10	18	5	15	–	–	276
24	Clothing and footwear	109	187	14	18	2	–	–	–	330
25	Wood, wood products and furniture	108	85	46	47	33	33	–	1	354
26	Paper, paper products, printing and publishing	167	160	37	26	19	24	–	3	436
27	Chemical, petroleum and coal products	411	232	73	18	38	n.p.	43	1	786
28	Non-metallic mineral products	131	91	52	30	41	7			353
29	Basic metal products	640	139	132	131	218	65			1,366
31	Fabricated metal products	231	226	60	60	47	9	2	3	638
32	Transport equipment	193	478	92	174	16	n.p.	–	1	956
33	Other machinery and equipment	558	515	68	115	50	4			1,312
34	Miscellaneous manufacturing	146	178	18	30	9	6			387
	Total manufacturing									
	1977–78(*a*)	**3,193**	**2,899**	**743**	**857**	**533**	**218**	**47**	**10**	**8,500**
	1977–78(*b*)	3,194	2,898	744	862	533	224	47	11	8,513
	1976–77(*b*)	3,057	2,744	691	789	430	232	42	11	7,997

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442).

Value added

The statistics on 'value added' contained in the following table have been calculated by adding to the value of turnover the increase (or deducting the decrease) in the value of stocks, and deducting the value of purchasers, transfers in and selected expenses. A more detailed description of the method of deriving 'value added' is given on page 442.

MANUFACTURING ESTABLISHMENTS—VALUE ADDED, BY INDUSTRY SUB-DIVISION, 1977–78(*a*) AND TOTAL MANUFACTURING, 1976–77, 1977–78(*b*)
($ million)

Industry sub-division *ASIC code*	*Description*	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
21	Food, beverages and tobacco	1,189	1,195	691	315	248	115	5	8	3,768
23	Textiles	183	293	19	36	12	38	–	–	581
24	Clothing and footwear	323	540	42	47	13	2	–	–	968
25	Wood, wood products and furniture	387	285	154	113	111	72	1	7	1,129
26	Paper, paper products, printing and publishing	685	576	147	129	93	109	3	22	1,763
27	Chemical, petroleum and coal products	875	523	116	62	90	n.p.	41	5	1,697
28	Non-metallic mineral products	345	305	147	95	120	17			1,036
29	Basic metal products	1,017	275	207	148	166	59			1,908
31	Fabricated metal products	633	567	174	137	135	23	3	8	1,681
32	Transport equipment	550	945	191	257	76	n.p.	3	4	2,032
33	Other machinery and equipment	1,151	922	143	243	115	13			2,592
34	Miscellaneous manufacturing	415	474	60	91	30	7			1,077
	Total manufacturing									
	1977–78(*a*)	**7,752**	**6,901**	**2,090**	**1,672**	**1,209**	**498**	**56**	**54**	**20,231**
	1977–78(*b*)	7,755	6,897	2,093	1,669	1,197	513	56	54	20,235
	1976–77(*b*)	7,219	6,637	1,991	1,597	1,154	533	46	57	19,234

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442).

Number of establishments

The following table shows the number of establishments in each State in operation at 30 June for the years indicated. These figures relate to manufacturing establishments as such and do not include the numbers of separately located administrative offices and ancillary units.

MANUFACTURING ESTABLISHMENTS—NUMBER OF ESTABLISHMENTS IN OPERATION AT 30 JUNE 1978(*a*) BY INDUSTRY SUB-DIVISION, AND TOTAL MANUFACTURING 1976-77, 1977-78(*b*)

Industry sub-division ASIC code	Description	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
21	Food, beverages and tobacco	960	984	561	383	318	129	15	8	3,358
23	Textiles	223	301	34	35	28	13	–	–	634
24	Clothing and footwear	843	1,079	84	73	49	8	–	–	2,136
25	Wood, wood products and furniture	1,226	1,078	559	318	372	170	9	19	3,751
26	Paper, paper products, printing and publishing	1,103	848	217	187	149	45	6	18	2,573
27	Chemical, petroleum and coal products	408	276	58	50	64	n.p.	20	16	873
28	Non-metallic mineral products	538	380	254	145	173	53			1,573
29	Basic metal products	207	166	48	40	33	10			508
31	Fabricated metal products	1,484	1,097	442	353	349	76	10	17	3,829
32	Transport equipment	387	409	167	121	142	n.p.	4	11	1,248
33	Other machinery and equipment	1,510	1,228	246	293	230	40			3,558
34	Miscellaneous manufacturing	807	725	168	172	130	18			2,023
	Total manufacturing									
	1977-78(*a*)	**9,696**	**8,571**	**2,838**	**2,170**	**2,037**	**599**	**64**	**89**	**26,064**
	1977-78(*b*)	9,712	8,542	2,840	2,146	2,016	586	64	91	25,997
	1976-77(*b*)	9,982	8,735	3,001	2,242	2,035	617	67	101	26,780

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442).

Single establishment manufacturing enterprises with less than four persons employed

Summary of operations

The following table shows the summary of operations for single establishment manufacturing enterprises with less than four persons employed.

SINGLE ESTABLISHMENT MANUFACTURING ENTERPRISES WITH LESS THAN FOUR PERSONS EMPLOYED: SUMMARY OF OPERATIONS, BY INDUSTRY SUB-DIVISION: AUSTRALIA, 1977-78(*a*) AND TOTAL MANUFACTURING 1976-77(*b*)

Industry sub-division ASIC code	Description	*Establishments operating at 30 June*	*Employment at 30 June (c)*			*Wages and salaries (d)*
			Males	*Females*	*Persons*	
		No.	No.	No.	No.	$m
21	Food, beverages and tobacco	746	1,165	556	1,721	4.8
23	Textiles	217	266	187	453	1.4
24	Clothing and footwear	514	435	627	1,062	3.2
25	Wood, wood products and furniture	2,785	4,555	979	5,534	13.9
26	Paper, paper products, printing and publishing	1,171	1,577	848	2,425	8.2
27	Chemical, petroleum and coal products	231	350	117	467	2.1
28	Non-metallic mineral products	455	801	159	960	3.7
29	Basic metal products	91	155	24	179	0.8
31	Fabricated metal products	1,903	3,249	694	3,943	13.3
32	Transport equipment	582	993	205	1,198	3.3
33	Other machinery and equipment	1,563	2,496	681	3,177	12.2
34	Miscellaneous manufacturing	1,566	2,190	853	3,043	7.9
	Total manufacturing 1977-78(*a*)	**11,824**	**18,232**	**5,930**	**24,162**	**74.9**
	1976-77(*b*)	11,039	16,624	5,543	22,167	61.2

(*a*) Based on 1978 edition of ASIC (*see* page 442). (*b*) Based on 1969 edition of ASIC (*see* page 442). (*c*) Includes working proprietors. (*d*) Excludes the drawings of working proprietors.

Electricity and gas establishments

For the section on electricity and gas establishments *see* Chapter 18, Energy.

Principal manufacturing commodities

The factory production of certain commodities is shown in the monthly and quarterly publications of the ABS, and in the annual publication, *Manufacturing Commodities, Selected Principal Articles Produced, Australia (Preliminary)* (8365.0). A more comprehensive list of articles produced is contained in the annual publication, *Manufacturing Commodities, Principal Articles Produced, Australia* (8303.0).

The following table shows the total recorded production of some of the principal articles (i.e. of those for which production can be represented in quantitative terms) manufactured in Australia. A more complete list, where available, is published in ABS publication 8303.0 mentioned above.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA

Commodity code	*Article*		*1975–76*	*1976–77*	*1977–78p*
	Acid (in terms of 100%)—				
401.29	Hydrochloric	tonnes	48,046	47,735	50,215
401.37	Nitric	"	165,091	152,899	174,436
401.57	Sulphuric	'000 tonnes	1,281	1,752	1,831
171.03, 04, 07, 08	Aerated and carbonated waters	'000 litres	891,234	951,238	998,664
	Air-conditioning equipment—				
657.03, 05	Room air conditioners (refrigerated)	No.	31,666	37,213	40,811
657.13, 15	Room air coolers (evaporative coolers)	"	85,752	103,726	61,374
657.21, 22, 23	Package unit air conditioners	"	17,901	26,689	22,217
	Animal feeds—				
	From wheat—				
152.06	Pollard	'000 tonnes	254	205	228
159.11	Poultry pellets and crumbles	"	1,104	1,127	1,200
159.15	Poultry mash	"	235	240	203
159.21	Other prepared stock and poultry feed	"	490	548	635
159.01	Canned dog and cat foods	'000 kg	150,866	174,260	163,365
159.02	Dog biscuits (whole)	"	19,223	20,215	19,628
159.03	Other manufactured dog and cat food	"	42,879	53,025	58,492
475.04, 06, 07, 85	Asbestos cement building sheets (finished)	'000 m²	39,976	43,713	39,436
	Bags, leather, fibre, etc.—				
	Handbags—				
864.31	Leather	'000	336	306	378
864.33	Plastic	"	1,158	959	612
864.39	Other	"	410	329	292
946.01–52	Hessian and calico bags	'000 doz	1,113	n.a.	n.a.
864.11–19	Suitcases, kitbags and trunks	'000	1,149	857	874
	Bath heaters—				
652.01	Electric	No.	8,819	7,079	6,399
652.03, 06, 08	Gas	"	n.a.	n.a.	n.a.
652.05	Solid fuel	"	1,669	1,158	884
779.02–37	Bathing suits(*a*)	'000 doz	273	252	311
	Baths (exclude infants' baths)—				
671.03	Pressed steel—Enamelled	'000	142	149	136
671.01, 04, 08	Other (exclude pressed steel, galvanised)	"	37	29	27
	Batteries, wet cell type—				
685.13, 15	Auto (S.L.I.) 6 volts	"	314	300	279
685.17, 19	Auto (S.L.I.) 12 volts	"	2,468	2,656	2,773
685.33, 35	Radio, homelighter, fencer	No. of 2 volts cells	26,159	18,206	13,269
685.43–65	Traction, plant and other	"	163,767	158,314	175,926
172.02, 04, 06	Beer (excluding waste beer)	mil. litres	1,916	1,955	2,055
064.21	Biscuits	'000 kg	117,863	124,706	121,341
372.52–66, 374.51–57	Blankets, Woollen—Pure and Mixtures	'000	2,022	1,580	1,427
152.02	Bran (wheaten)	'000 tonnes	130	116	96
172.21	Brandy	'000 litre al	1,552	1,963	2,678
777.41, 49	Brassieres	'000 doz	723	665	641
066.01–31	Breakfast food, cereal (ready to eat)	tonnes	67,344	73,780	77,814
472.01, 03	Bricks, clay	million	1,815	2,033	1,911
261.41	Briquettes, brown coal	'000 tonnes	946	1,035	1,064
051.30, 052.20	Butter—from cream (exclude whey cream)	'000 kg	145,916	116,095	110,558
773.51, 53, 74, 75, 83	**Cardigans**, jumpers, etc.	'000 doz	1,965	2,065	2,040
474.02	Cement, Portland	'000 tonnes	5,100	5,083	5,016

(*a*) Includes swim shorts. Excludes infants' and babies' swim-wear.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*		*1975–76*	*1976–77*	*1977–78p*
053.45	Cheese (non-processed)	'000kg	112,617	103,549	115,583
	Cloth (including mixtures)—				
373.10–52	Cotton(*a*)	'000m²	44,708	39,210	37,490
374.02–16	Rayon and acetate	"	16,936	16,594	14,218
374.20–34	Synthetic (non-cellulosic)	"	100,994	98,501	103,571
372.02–50	Wool (excluding blanketing and rug)	"	14,297	11,494	n.y.a.
435.22	Coke—Metallurgical	'000 tonnes	4,732	4,501	4,310
475.90	Concrete, ready mixed	'000m³	10,273	10,548	10,331
	Confectionery—				
104.06–18	Chocolate	'000 kg	55,251	55,663	69,304
104.21–29	Other	"	63,273	58,961	59,161
452.04	Copper, refined(*b*)	'000 tonnes	164	157	155
171.06, 10	Cordials and syrups	'000 litres	100,759	104,415	115,468
777.01–29	Corsets and corselets	'000 doz	188	n.a.	n.a.
611.01	Cycles (complete)	'000	217	274	190
804.01	**Dentifrices** (toothpaste)	'000 kg	6,704	7,496	7,738
499.42	**Electricity**	mil. kWh	76,597	85,522	85,981
523.76–78	Electrodes for manual welding	'000 kg	22,997	20,508	17,659
502.22–39	Engines, spark and compression ignition(*c*)	'000	342	311	246
	Essences, flavouring—				
139.31	Domestic	'000 litres	332	431	539
139.35	Industrial	"	4,609	5,553	6,407
696.01, 03, 05	**Fans**, electric (propellor type)	No.	541,766	486,347	443,528
045.01, 51	Fish, canned (including fish loaf)	'000 kg	7,273	6,385	7,898
	Floorboards—				
332.06	Australian timber	m³	276,536	247,705	265,292
332.08	Imported timber	"			
	Floor coverings—				
841.01–07	Textile	'000 m²	31,939	29,901	27,422
841.31–61, 69	Smooth surface and embossed	"	7,366	5,799	6,085
841.67, 68	Timber parquetry	"	122	150	109
841.85	Underfelts, underlays, etc.(*d*)	"	11,641	10,491	9,127
692.21, 23	Floor polishers, electric	No.	23,586	17,316	12,391
	Flour—				
068.01	Self-raising	'000 kg	37,423	33,922	59,121
062.01, 10, 32	Wheaten(*e*)	'000 tonnes	1,242	1,067	1,090
	Fruit juices, natural—				
074.61–69, 79	Single strength	'000 litres	187,762	156,508	227,474
074.76, 89	Concentrated(*f*)	"	16,269	10,718	22,476
781.06–29	**Gloves, work**(*g*)	'000 doz pairs	3,829	4,039	3,017
127.21	Glucose	'000 kg	51,880	50,523	49,240
832.58, 59	Golf clubs	doz	52,324	34,173	27,338
	Handkerchiefs—				
786.01	Men's	'000 doz	865	766	735
786.11	Women's	"			
	Heaters, room—				
651.01, 03	Solid fuel	No.	3,547	3,274	3,537
651.11–20	Electric radiators and fires	'000	648	658	738
651.04, 05, 21, 22, 26, 27	Gas fires and space heaters	No.	61,620	77,769	70,784
775	Hosiery—				
	Women's (including panty hose)	'000 doz pairs	6,756	5,909	5,387
	Men's	"	1,993	1,876	1,847
	Childrens' and infants'	"	1,112	1,122	1,152
051.61	**Ice cream**(*h*)	'000 litres	213,275	190,679	211,923
051.87, 89, 90	Infants', invalids' and health beverages from cows milk(*i*)	'000 kg	29,804	30,968	28,078
	Ink, printing—				
419.31	News	"	6,596	n.a.	n.a.
419.43–59	Other	"	n.a.	n.a.	n.a.

(*a*) Excludes tyre-cord fabric and towelling. (*b*) Primary origin only. (*c*) Petrol and diesel. Excludes car, motorcycle, truck, tractor, aero, and marine engines. (*d*) Needled (or bonded) felts of jute or jute/hair mixtures (for all purposes). (*e*) Includes wheatmeal for baking and sharps and other flour. (*f*) Excludes grape must. (*g*) Excludes fabric liners for dipped gloves but includes moulded or heat-sealed work gloves. (*h*) Includes ice cream combined with other confections, including those aerated milk-based confections which contain 10% or more butterfat. (*i*) Includes malted milk and milk sugar (lactose).

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*		*1975–76*	*1976–77*	*1977–78p*
	Iron and steel—				
442.04, 08	Pig iron	'000 tonnes	7,331	7,005	6,989
442.80–83	Steel ingots	"	7,832	7,558	7,445
442.28	Blooms and slabs(*a*)	"	6,477	6,544	6,520
693.51, 61, 63	Irons, electric (hand, domestic)	'000	746	876	774
076.60	**Jams** (including conserves, jellies, etc.)	'000 kg	31,121	27,267	28,998
391.04	**Lard**	"	2,466	2,737	3,399
	Lawn mowers—				
699.52, 53	Petrol, rotary	No.	336,866	316,793	268,790
699.41, 45, 55, 61	Other types(*b*)	"	19,559	12,917	14,359
453.04	Lead refined(*c*)	'000 tonnes	168	166	208
	Leather—				
	Dressed or finished—				
301.43–65	Chrome tanned (including retanned)	'000 m²	5,015	5,090	6,044
301.31–37, 83–89	Vegetable tanned, by weight	'000 kg	n.a.	n.a.	n.a.
301.67, 69	Vegetable tanned, by measurement	'000 m²	178	162	225
	Lime—				
275.43, 45	Crushed	tonnes	228,220	205,070	212,032
479.18	Hydrated	'000 tonnes	110	120	115
479.12	Quick	"	564	532	563
802.21	Lipstick	'000 kg	41	40	40
063.11–21, 31	**Malt** (excluding extract)	'000 tonnes	403	388	423
	Margarine—				
121.01	Table	'000 kg	46,482	69,902	76,214
121.06, 08	Other	"	56,635	52,812	45,876
	Mattresses—				
844.22, 25, 27	Inner spring	'000	630	695	683
844.42, 45, 47	Rubber	"	16	15	10
844.52–67	Other	"	542	601	581
027.02–77	Meat, canned(*d*)	'000 kg	43,878	52,173	51,778
	Meters (domestic)—				
702.01	Electricity consumption	'000	248	235	206
703.01	Gas consumption	"	62	69	88
703.11	Water consumption	"	189	178	171
	Milk, condensed, concentrated and evaporated—				
051.21, 22	Full cream, coffee and milk, sweetened	'000 kg	15,364	19,777	17,996
051.23, 052.42	Full cream, unsweetened	"	34,350	37,925	37,703
051.28	Skim	"	22,312	22,176	25,704
	Milk powder in powdered form—				
051.72, 73	Full cream	"	43,977	57,550	76,367
051.76–79	Skim	"	149,097	103,924	84,302
051.81, 82	Buttermilk or mixed skim and buttermilk	"	11,676	8,881	9,297
503.13–32	Motors, electric (excl. automotive)	'000	4,140	3,319	2,872
	Motor vehicles, finished—				
581.02–08	Cars	No.	308,537	322,607	264,959
581.10–16	Station wagons	"	55,289	58,511	53,186
582.04	Utilities	"	26,031	24,937	21,979
582.06	Panel vans	"	28,195	25,844	20,221
582.08–24	Truck and truck-type vehicles	"	7,488	10,223	10,091
	Motor vehicles, partly finished—				
581.22–28, 582.31, 32	Cars, station wagons, utilities, vans	"	1,489	1,508	1,358
582.33–46	Trucks and truck-type vehicles	"	22,834	23,719	18,927
589.81–89	Motor vehicle safety belts	'000	2,193	2,129	1,605
465.16, 17	**Nails**	"	22,683	22,336	20,269
	Oatmeal and rolled oats—				
062.61, 63	For porridge, etc.	tonnes	14,863	13,059	15,637
393, 394	Oils and fats, crude—Vegetable	'000 kg	72,395	61,345	78,885
	Paints, etc.—				
	Architectural and decorative(*e*)—				
	Solvent thinned—				
410.01	Primers and undercoats	'000 litres	12,596	11,918	11,764
410.03, 05, 07	Finishing coats	"	30,823	29,266	27,585

(*a*) Primary mills output. (*b*) Petrol cylinder, electric and hand. (*c*) Includes lead content of lead alloys from primary sources but excludes lead-silver bullion. (*d*) Excludes poultry and baby food. (*e*) Excludes heavy duty coatings.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*		*1975–76*	*1976–77*	*1977–78p*
	Water thinned—				
410.11, 13, 15	Plastic latex	„	32,277	35,855	35,826
410.17	Other water based	„	254	315	382
410.25	Tinting colours (all types) packed for sale or transfer out	'000 litres	508	539	509
	Paper—				
351.11	Newsprint	'000 tonnes	206	207	208
351.18–79	Other	„	536	586	606
352.11–33	Paperboard	„	380	431	415
336.12	Particle board (resin bonded)	'000 m²	460	496	522
975.04, 09, 11	Perambulators, pushers and strollers	'000	n.a.	n.a.	n.a.
479.22	Plaster of paris	'000 tonnes	347	384	348
479.32, 33	Plaster sheets—Non-acoustic	'000 m²	44,794	49,947	48,034
334.32, 34, 36, 38	Plywood, 1 mm basis	„	78,191	78,227	84,681
	Preserves—				
	Fruit—				
076.01–50	Canned or bottled	'000 kg	175,317	182,833	182,429
074.01	Pulp and puree—single strength	”	5,598	6,540	3,022
	Vegetables—				
094.02–47	Canned or bottled	”	122,856	122,146	127,814
092.02, 06, 10, 19	Quick frozen	”	130,627	129,888	130,321
	Pyjamas—				
774.20, 22, 27, 29	Men's, youth's and boy's (suits only)	'000 doz	340	n.a.	n.a.
774.50–59, 64, 66	Women's, maid's and girl's (incl. nightdresses)	”	748	731	694
832.65, 85	**Racquet** frames (all types)	doz.	12,792	12,792	11,078
643.01–37	Radio receiving sets (including radiograms)	No.	117,350	62,569	216,174
	Records (phonograph)—				
646.35, 65	Single play	'000	5,512	7,131	7,233
646.37, 41, 67, 71	Extended play	”	328	195	144
646.43, 45, 73, 75	Long play	”	21,245	21,502	21,143
657.33, 34, 35, 41	Refrigerators, domestic, electric and gas	”	230	276	249
403,404	Resins, plastics and synthetic, for all purposes	'000 tonnes	380	459	484
061.67, 69	Rice, polished, unpolished and broken	'000 kg	298,051	279,779	n.a.
372.70, 72, 374.59	Rugs	'000	159	129	131
123.18–25	**Sauce**	'000 litres	28,142	34,248	31,531
062.04	Semolina	'000 tonnes	27	24	28
773.02–09	Shirts (men's, youths' and boys'), collar attached (*a*)	'000 doz	595	477	522
653.01	Sink heaters, electric	No.	9,838	10,439	9,340
671.11–18	Sinks, steel and other (standard size)	”	244,821	300,872	220,855
805.01–13	Soap, for personal toilet use (*b*)	tonnes	28,464	28,390	29,891
	Soup—				
122.02, 09	Canned	'000 litres	37,572	37,708	36,268
122.13, 15	Dry-mix	'000 kg	5,524	6,359	5,227
127.11–19	Starch (incl. cornflour)	”	126,478	139,603	149,556
401.53	Stearine (stearic acid)	”	4,602	7,890	n.a.
461.20	Steel, constructional, fabricated	tonnes	537,124	469,414	431,823
	Stoves, ovens and ranges, domestic cooking—				
661.01–11	Electric(*c*)	No.	247,148	255,662	232,595
662.26, 31, 34, 36, 42, 43	Gas(*d*)	”	108,448	110,476	94,890
662.01, 03	Solid fuel	”	4,048	3,745	3,190
	Sugar—				
102.01	Raw	'000 tonnes	2,850	3,288	3,343
102.12	Refined	”	702	698	636
405.36	Sulphate of ammonia	tonnes	223,784	207,167	229,453
415.07, 405.25	Superphosphate(*e*)	'000 tonnes	2,316	3,180	3,430
803.61	**Talcum** powder	'000 kg	4,173	4,097	4,451
	Tallow (including dripping), rendered—				
391.15	Edible	”	86,908	77,767	78,380
391.24	Inedible	”	294,573	300,861	329,269
643.57–60, 68	Television sets (colour)	No.	441,735	512,042	367,109
645.51–58	Television picture tubes incorp. new screens	”	45,606	17,832	7,841

(*a*) Business or formal. (*b*) Excludes powdered shampoo. (*c*) Includes wall ovens but excludes cooking tops and portable units. (*d*) Upright and elevated (with ovens) including wall ovens, but excluding hotplates, stovettes, etc. (*e*) Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate i.e. 22% P_2O_2 equivalent.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA—*continued*

Commodity code	*Article*		*1975–76*	*1976–77*	*1977–78p*
	Tiles, roofing—				
475.30	Concrete	'000	219,663	226,704	205,572
472.12	Terracotta	"			
	Timber—				
	From native logs—				
331.01–07	Hardwood, etc.	'000 m³	2,372	3,228	3,057
331.09–19	Softwood	"	856		
331.23, 25	From imported logs	"	2	2	n.a.
661.21, 23	Toasters, electric (domestic)	No.	592,344	557,752	520,698
183.21–28	Tobacco	'000 kg	2,101	1,935	1,947
094.51	Tomato juice	'000 litres	7,229	8,130	8,818
094.53	Tomato paste and puree	"	n.a.	56,728	n.a.
373.58–64	Towels	'000 doz	784	811	838
671.51–59	Toilet cisterns	No.	494,363	545,468	n.a.
683.03–11	Transformers, chokes and ballasts, for distribution of power and light, etc.	"	15,185	18,358	18,888
863.01	**Umbrellas**, street and general purpose	'000	666	528	n.a.
773.90–97 774.01–18, 36–49, 61–73, 91–97	Underwear (men's, women's, children's)	'000 doz	6,271	6,660	6,051
692.02,04	**Vacuum** cleaners (domestic)	'000	251	200	175
	Wash basins—				
671.37	Earthenware	"	276	252	251
693.02–18	Washing machines, household, electric	"	351	301	282
	Weatherboards—				
332.12	Australian timber	m³	33,457	15,272	11,317
332.14	Imported timber	"	2,317	2,857	1,791
152.14	Wheatmeal for stock feed	'000 tonnes	539	492	417
519.01	Wheelbarrows (metal)	No.	182,794	155,905	200,234
	Wine, beverage—				
172.42	Fortified	'000 litres	68,586	65,519	45,031
172.46	Unfortified	"	164,014	194,800	185,413
341.31–45	Wood pulp (air dried)	'000 tonnes	555	600	614
242.07–11	Wool, scoured or carbonised	tonnes	69,272	62,167	70,456
242.33, 35	Wool tops, pure	'000 kg	15,416	16,709	17,173
	Yarn (including mixtures)—				
364.11–50	Cotton	"	24,486	22,181	22,460
363.47–75	Woollen	"	16,247	14,008	13,821
363.17–31	Wool worsted	"	6,131	5,422	5,453
365.38–65	Rayon and acetate, spun	"	2,321	n.a.	n.a.
365.90, 366.03, 04, 16, 29, 30, 42, 55, 56, 88, 96, 97	Synthetic (non-cellulosic) fibres spun	"	15,033	11,615	9,289
457.04	**Zinc**, refined(*a*)	'000 tonnes	205	262	263

(*a*) Primary origin only includes small quantities of zinc dust.

Enterprise and Industry Concentration Statistics

Industry statistics shown earlier in this chapter relate to *establishments*. Statistics are also available for *enterprises* engaged in manufacturing industry. Enterprise statistics for manufacturing have been produced from the 1968–69 and 1974–75 economic censuses and were published in *Enterprise Statistics: Details by Industry Class, Australia* (8103.0). Enterprise statistics for manufacturing will be produced annually commencing with data for 1977–78 and should be available within two years of the end of the financial year to which they relate. A description of the statistics is given in Year Book No. 61, pages 1077–81.

Similarly, *industry concentration* statistics have been published for 1968–69 and 1972–73. These aim to show the extent to which individual enterprise groups dominate particular industries. A description and summary tables of these statistics are given in Year Book No. 61, pages 1081–4 for 1968–69, and the publication *Manufacturing Census, Industry Concentration Statistics, Australia* (8207.0) for 1972–73.

Foreign Ownership and Control in Manufacturing Industry

Summary information on foreign ownership and control in manufacturing industry is shown in Chapter 24. More detailed statistics are available in *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups,* 1972–73 (*Advance Release*) (5314.0), *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups,* 1975–76 (5315.0), *Foreign Ownership and Control in Manufacturing Industry,* 1972–73 (*Advance Release*) (5321.0) and *Foreign Ownership and Control in Manufacturing Industry,* 1972–73 (5322.0).

INTERNAL TRADE

Wholesale Trade

For summary tables showing final figures from the 1968–69 census of Wholesale Trade *see* Year Book No. 61, pages 1070–2. Further and more detailed statistics are included in separate publications published by Central and State offices of ABS.

Retail Trade

Retail census

The definition of retail trade, for the purpose of the most recent retail census which was taken for the year ended 30 June 1974, is the resale of new and used goods to final consumers for personal and household consumption. For information and detailed tables relating to the 1973–74 Retail Census, reference should be made to Year Book No. 61, pages 1072–6, and census publications *Census of Retail Establishments and Selected Service Establishments* 1973–74—*Final Bulletins* (8614.0 to 8619.0, 8620.0 and 8621.0). Summary of operations details of establishments classified by industry group for Australia for 1973–74 are set out in the following table.

RETAIL ESTABLISHMENTS AND SELECTED SERVICE ESTABLISHMENTS: SUMMARY OF OPERATIONS, BY INDUSTRY GROUP, 1973-74

Industry group	*Number of establishments at 30 June 1974*	*Employment at end of June 1974 (a)*			*Wages and salaries (b)*	*Retail sales*	*Wholesale sales*	*Other operating revenue*	*Turnover*
		Males	*Females*	*Persons*					
RETAIL ESTABLISHMENTS									
	No.	No.	No.	No.	$m	$m	$m	$m	$m
Department variety and general stores	1,672	36,721	85,582	122,303	407.2	2,399.8	85.0	52.1	2,536.9
Food stores	47,957	99,692	127,582	227,274	429.0	5,073.8	25.1	34.5	5,133.5
Clothing, fabrics and furniture stores	19,334	30,308	57,170	87,478	239.2	2,076.1	7.5	10.0	2,093.6
Household appliance and hardware stores	9,734	26,625	20,044	46,669	151.5	1,110.0	47.2	129.2	1,286.4
Motor vehicle dealers, petrol and tyre retailers	28,170	155,807	36,445	192,252	681.6	5,340.0	1,222.5	915.9	7,478.4
Other retailers	20,139	30,436	48,147	78,583	171.2	1,461.1	13.4	26.7	1,501.2
Total retail establishments	**127,006**	**379,589**	**374,970**	**754,559**	**2,079.7**	**17,460.9**	**1,400.7**	**1,168.4**	**20,030.1**
SELECTED SERVICE ESTABLISHMENTS									
Restaurants and licensed hotels	11,478	63,364	88,871	152,235	416.9	1,290.9	1.7	625.1	1,917.6
Licensed clubs	3,287	33,526	18,186	51,712	185.6	310.9	0.8	348.4	660.0
Hairdressing and beauty salons	9,349	5,896	20,562	26,458	46.7	8.0	–	117.9	125.9
Total selected service establishments	**24,114**	**102,786**	**127,619**	**230,405**	**649.2**	**1,609.8**	**2.5**	**1,091.3**	**2,703.6**
Total retail and selected service establishments	**151,120**	**482,375**	**502,589**	**984,964**	**2,729.0**	**19,070.7**	**1,403.2**	**2,259.8**	**22,733.7**

(*a*) At end of June; includes working proprietors but excludes unpaid helpers. (*b*) Excludes drawings by working proprietors.

Retail surveys

In intercensal periods, estimates of the value of retail sales by broad commodity groups are obtained quarterly by means of sample surveys for each State and Australia.

The following table shows the value of retail sales of goods in each of the commodity groups specified. The figures have been obtained from a sample based on the 1973–74 Retail Census. More detailed information concerning the quarterly surveys of retail trade is contained in the quarterly publication *Retail Sales of Goods, Australia* (8503.0).

VALUE OF RETAIL SALES: COMMODITY GROUPS(*a*)

($ million)

Commodity group	*1976-77*	*1977-78*	*1978-79*
Groceries	3,714.4	4,257.2	4,795.9
Butchers' meat	1,272.6	1,417.5	1,649.8
Other food (*b*)	2.091.1	2,356.8	2,632.4
Total, food and groceries	*7,078.1*	*8,031.5*	*9,078.1*
Beer, wine and spirits	2,845.3	3,133.7	3,558.1
Clothing and drapery	3,252.6	3,585.9	3,852.6
Footwear	509.6	574.5	632.3
Hardware, china and glassware(*c*)	840.9	962.5	1,088.4
Electrical goods(*d*)	1,934.1	1,850.2	1,867.0
Furniture and floor coverings	1,216.3	1,283.0	1,344.3
Chemists' goods	1,140.2	1,235.0	1,334.9
Newspapers, books and stationery	775.2	863.2	951.5
Other goods(*e*)	1,840.3	2,033.9	2,267.4
Total (excluding motor vehicles, etc.)	**21,432.6**	**23,553.4**	**25,974.6**

(*a*) Excludes Northern Territory and Australian Capital Territory. (*b*) Includes fresh fruit and vegetables, confectionery, soft drinks, ice cream, cakes, pastry, cooked provisions, fish and wrapped lunches. (*c*) Excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc. (*d*) Includes radios, television and accessories, musical instruments, domestic refrigerators, etc. (*e*) Includes tobacco, cigarettes, etc., sporting goods, etc., but excludes grain and produce and business machines.

Retail sales of goods at constant prices

The following table shows series of the value of retail sales of goods at constant prices. The scope of the series at average 1968-69 prices is identical to that of the series at current prices based on the 1968-69 Retail Census, while the scope of the series at average 1974-75 prices is identical to that of the series at current prices based on the 1973-74 Retail Census.

A detailed description of the nature of these estimates at constant prices, and of the sources and methods used in preparing them, can be found in the Explanatory Notes of the March 1978 issue of *Retail Sales of Goods* (8503.0).

VALUE OF RETAIL SALES OF GOODS AT CONSTANT PRICES BY BROAD COMMODITY GROUPS(*a*)

($ million)

	At average 1968-69 prices(b)	*At average 1974-75 prices(c)*				
Broad commodity group	*1974-75*	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79*
Food and drink	5,023.0	7,429.6	7,621.0	7,932.8	8,197.9	8,236.9
Clothing, hardware, electrical and furniture	4,115.1	5,984.9	6,217.3	6,221.2	6,073.5	6,083.5
Other	1,901.2	2,925.2	2,929.9	2,973.7	3,048.5	3,099.2
Total (excluding motor vehicles, parts, petrol, etc.)	**11,039.3**	**16,339.7**	**16,768.2**	**17,127.7**	**17,319.9**	**17,419.6**

(*a*) Excludes Northern Territory and Australian Capital Territory. (*b*) Series based on 1968-69 Retail Census. (*c*) Series based on 1973-74 Retail Census.

CHAPTER 18

ENERGY

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CHAPTER 18

ENERGY

Introduction

Australia is an energy rich country, with major reserves of coal and uranium and substantial reserves of natural gas. There are no known deposits of heavy-oil or tar sands, but there are extensive deposits of oil shale, although these are not considered to be commercially viable at present. Thorium, solar, wave, hydro-power, wind, ocean thermal, wood, geothermal, tidal and crops resources also represent important potential energy sources. Despite this relative abundance Australia shares world-wide concern about the energy situation, oil shortages and rising oil prices. The impact has already been felt. Prices have risen, and shortages have developed in petroleum products, notably aviation gasoline and fuel oil. This turmoil has forced on the world an accelerated recognition of the need to adjust energy use patterns away from oil and towards alternative energy sources.

The immediate aim of Australia's energy policy is to reduce dependence on imported oil and ensure that secure and stable supplies of energy—particularly liquid fuels—are readily available. In the longer term, the aim is to develop a diversified energy base which will minimise dependence on liquid fuels.

These objectives are being pursued by pricing and tax policy; the pursuit of energy conservation and inter-fuel substitution; the encouragement of exploration and development, support for major energy development projects; the stimulation of energy research and development, and active international co-operation.

The most significant policy initiative in this area during 1978–79 was the decision to move consumers to full world parity through an increased production levy, which raised the price paid by refiners for indigenous crude oil to import parity level.

Australia has abundant sources of solid fuels in New South Wales, Victoria and Queensland suitable for power generation and soundly planned and timely installation of new power generating capacity is essential to facilitate the transfer of demand for energy from liquid fuels to electricity derived from solid fuels or hydro-electric resources.

In the area of energy research and development, high priority is being given to conservation of liquid fuels including increased efficiency in all uses; exploration and recovery of oil and gas; liquid fuel alternatives such as methanol, oil from shales, oil from coal, ethanol; substitution of other fuels and energy sources such as conversion of oil-fired installation to coal fired; use of solar energy for industrial process heat, use of solar energy for space heating and cooling; improvement in the exploration, production and utilisation of coal; electric vehicles and battery technologies; remote area applications of solar energy such as small-scale use of solar energy for hot water and electric generation; small-scale wind and hybrid solar/wind power systems; environmental effects of increased coal mining and utilisation; environmental effects of uranium mining, storage, processing and enrichment; and uranium enrichment.

The results of these and other energy research projects will assist the Australian Government in determining the most beneficial mix of new and improved technologies which Australia should adopt to meet existing and future energy demands.

The most significant event in the area of international energy co-operation has been Australia's decision to join the International Energy Agency (IEA). In joining the IEA, Australia ensured that its federal constitutional system, policies on foreign investment, uranium and export of energy resources were protected in relation to its participation in the IEA's programs. Australian membership came at a time when the IEA was exercising an increasingly important role in relation to the assessment of the global energy situation.

Advice and co-ordination

International Energy Agency

The International Energy Agency (IEA) was established in Paris in November 1974 as an autonomous institution within the frame work of the Organization for Economic Co-operation and Development. (Australia did not seek membership at that time.)

In January 1979 Australia applied for membership, and this application was accepted by the IEA Governing Board in May 1979. Other members of the IEA are Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States. The Agency is supported by a permanent Secretariat headed by an Executive Director.

The objective of the IEA is to implement the International Energy Program as set out in the Agreement authorising the establishment of the Agency. This Agreement encompasses the development of a common level of emergency self sufficiency in oil supplies, establishment of common demand restraint measures, the creation of an Emergency Oil Sharing Scheme (EOSS) to be activated in an emergency supply situation, an information system on the international oil market and a framework for consultation with oil companies. The IEA is particularly active in energy research projects and is promoting closer relations with producer countries.

In October 1978 the IEA adopted a decision on IEA Group Objectives including a Group conservation target of limiting oil imports to 26 million barrels per day by 1985. Principles for Energy Policy were also adopted which provide an international policy framework to assist Governments in the definition of national energy policies. In May 1979 IEA member countries agreed to reduce their demand for oil on the world market in the order of 2 million barrels per day, and adopted a paper agreeing to increased usage and trade in steaming coal.

The IEA decisions which are binding on members are made by the Governing Board of the Agency. The Governing Board is composed of Ministers (or delegates) from member countries. The Management Committee, composed of senior officials from each member country, carries out functions assigned to it in the Agreement or delegated by the Governing Board. Standing Groups are charged to carry out assigned functions, including information on the Energy Questions, the Oil Matter, Long Term Co-operation, Relations with Producers and other Consumer Countries.

National Energy Office

Reviewing energy policy and providing policy advice on an ever increasing range of energy matters is a major task for the National Energy Office. It provides policy advice on energy pricing and taxation, and also provides departmental support for the National Energy Advisory Committee (NEAC) and the National Energy Research, Development and Demonstration Council (NERDDC), and contributed substantially to participation by the Department of National Development in the work of the Australian Minerals and Energy Council (AMEC).

National Energy Advisory Committee (NEAC)

The National Energy Advisory Committee was established on an interim basis in February 1977 and as a permanent committee in February 1978. Its functions include the provision of advice on Australia's energy reserves and on factors likely to influence the pattern of energy supply and demand, and future costs, in Australia; the assessment and development of our energy resources; and economy in the use of energy. The Committee is also required to offer advice on the balance of resources for research relating to the development of energy sources in Australia, and on development both here and overseas in respect of methods and technology associated with the production and distribution of energy.

The Committee consists of 21 members who have been selected with a view to covering a wide spectrum of expertise in the energy area, and appointed on the basis of the personal contribution which they can make to the work of the Committee, as distinct from any representational role they might otherwise perform.

Other Organisations

In May 1978 the Minister for National Development and Energy announced the establishment of a further advisory body, the National Energy Research, Development and Demonstration Council (NERDDC). This Council will advise him on the development and co-ordination of a national program of energy research, development and demonstration in Australia. The Council is supported by a secretariat within the National Energy Office of the Department of National Development and Energy.

For further details of the activities of NERDDC *see* Chapter 25, Science and Technology.

Resources

Black coal

Black coal is currently second to petroleum products as the largest source of primary energy in Australia. In geological terms it varies greatly in age, ranging from Permian to Miocene, or from about 225 million years to 15 million years of age. Within this range the Permian or oldest coal measures are of the highest quality. By world standards, in relation to her present population and consumption, Australia is fortunate in the availability of easily worked deposits of coal. The country's main black coal fields are located in New South Wales and Queensland, not far from the coast and from the main centres of population. Coal is a complex organic rock composed principally of carbon, hydrogen and oxygen, but also containing nitrogen, sulphur and other elements. It has formed from accumulated vegetable matter, which has subsequently undergone chemical and physical changes due to organic decay and to pressure and heat arising from burial. Coal also contains varying amounts of non-combustible materials such as silt and clay deposited as sediment among the vegetable debris: these contribute to the mineral matter content of coal which is related to coal ash. Most Australian coal deposits are classed as bituminous, but there is some sub-bituminous coal and a little anthracite. The bituminous coals have a wide range of properties: volatile contents range from high to low and, although ash tends to be high, the sulphur content is almost universally low.

Black coal resources amount to over 200,000 million tonnes which could yield about half of this in saleable coal. Economically recoverable reserves are currently about 20,000 million tonnes, almost all in the Sydney Basin in New South Wales and the Bowen Basin in Queensland. There are other coal bearing basins in New South Wales and Queensland, and small deposits are being worked in Western Australia, South Australia and Tasmania.

For further details relating to the production of black coal in Australia *see* Chapter 16, Mineral Industry.

Brown coal

About 99 percent of Australia's brown coal reserves are in Victoria, where the total is estimated at 114,000 million tonnes. Nearly all are located in the Latrobe Valley where 54 percent of proven reserves, or 65,000 million tonnes, are recoverable. Small deposits exist in other areas of south Gippsland, in south eastern Victoria at Gilliondale and in the south central region at Anglesea, Bacchus Marsh and Altona. Deposits are also known at many places along the southern margin of the continent and as far north as central Queensland.

Because brown coal has a relatively low specific-energy value and high water content, its utilisation depends on large-scale, low-cost mining and negligible transportation costs in its raw state. However, as an energy resource, Australia's recoverable economic resources of brown coal are 1.6 times as large as the equivalent category of recoverable non-coking coal (based on thermal equivalents) and are equal to about 65 per cent of total recoverable demonstrated resources of black coal.

In Victoria the brown coal industry has reached a high degree of sophistication in mining, on-site development for power generation, briquetting and char manufacture. In a Victorian Government *Green Paper* published in 1977 the then Victorian Ministry of Fuel and Power estimated that by the year 2000–01, Victorian brown coal requirements will be between 724 and 1,036 thousand terajoules, or between about 79 and 113 million tonnes per year (production of brown coal in Victoria during 1977–78 was 30,512,000 tonnes). The brown coal deposits of the Latrobe Valley have been developed by the State Electricity Commission of Victoria (SECV) for the generation of electricity. In over a century of operation more than 600 million tonnes of raw brown coal have been mined. This represents less than one per cent of the proven geological reserves.

Oil

After World War II the Commonwealth Government actively encouraged oil exploration. The Bureau of Mineral Resources was able to provide much background information (mainly of the results of geological and geophysical surveys) to organisations participating in the search for oil and the State Mines Departments also afforded considerable assistance. The results of early efforts in the post war period were generally disappointing, but oil was struck at Rough Range, Western Australia, in 1953. Although the flow was short-lived, the discovery marked an important stage in the search, and provided a much needed stimulus for further exploration.

Petroleum is broadly defined as any naturally occurring hydrocarbon or mixture of hydrocarbons, whether in a gaseous, liquid or solid state (excluding coal). Nearly all petroleum occurs in sedimentary rock sequences which contain source and reservoir beds. Australian sedimentary basins that do contain petroleum are thought to be comparable in yield to overseas basins of the same type, but they lack the anomalously rich basins that are found in parts of the Middle East, the United States and Russia. The nature of Australian source rocks and the temperatures that they have undergone have produced lighter oils and a higher proportion of gas to oil than usual elsewhere in the world.

Recovery of oil, by means of wells drilled into a sub-surface reservoir, that relies solely on the natural expansion of reservoir gas and/or on the natural drive of reservoir water, is called "primary". "Secondary" recovery methods involve the artificial reinjection of gas and/or the injection of water. Many other techniques, referred to as "tertiary", may further improve recovery. In modern production, various techniques for enhanced recovery are applied more or less from the beginning to obtain the optimum economic result, hence the ultimate recovery of oil depends on cost (including royalty and levy) and price. No combination of these techniques, however, is capable of recovering all of the oil in a reservoir.

The proportion of gas recovered from gas reservoirs is generally higher than the proportion of oil recovered from oil reservoirs. The ultimate recovery of gas is sensitive to cost (including royalty) and price. These factors control the number of wells that may be drilled to develop the reservoir, the pressure at which the field is to be abandoned and the rate at which the field is to be produced. In terms of size, petroleum fields are not evenly distributed: large fields are few and they generally contain a major proportion of the total petroleum resources of a province. The large fields tend to be discovered early in the exploration of a province, and for this reason it is highly unlikely that the Gippsland Basin contains an oil field larger than Kingfish or that the Rankin Trend of the Dampier Sub-Basin contains a gas field larger than North Rankin.

Major prospects for new oil discoveries are in untested areas and it is likely that most of Australia's undiscovered oil will be contained in only a few fields. Extrapolation from known areas suggests that undiscovered oil will be of the lighter types and that more gas fields than oil fields will be found. The best estimate available of Australia's undiscovered resources of crude oil include an average estimate of 570 million cubic metres (3600 million barrels) with a 90 per cent chance of there being at least 250 million cubic metres (1550 million barrels) and a 10 per cent chance of there being at least 1050 million cubic metres (6500 million barrels). This compares with identified economic reserves of 298 million cubic metres (1870 million barrels) and identified sub-economic resources of 48 million cubic metres (300 million barrels). For further details *see* National Energy Advisory Committee's report *Australia's Energy Resources: An Assessment.*

Most of Australia's identified resources of oil occur in the Gippsland Basin (Vic.), with smaller quantities at Barrow Island (W.A.), in the Cooper Basin (S.A.), Amadeus Basin (N.T.) and Surat Basin (Qld). The best prospects for further major discoveries of oil are probably in water deeper than 200 metres off Western Australia. In 1977–78 24,941,000 cubic metres of crude oil was produced in Australia.

For details such as government assistance in the discovery and mining of petroleum (including natural gas) in Australia *see* Chapter 16, Mineral Industry.

Natural gas

Demonstrated economic resources of sales gas are estimated at 309 x 109m^3 (19.8 TCF) of which 467 x 109m^3 (16.5 TCF) is considered to be paramarginal. The major part of this paramarginal gas is located in the North West Shelf. Comparatively small additional amounts of inferred resources occur in eastern and central Australia and comparatively large inferred resources (230 x 109m^3 (8.1 TCF) of sub-economic sales gas) are estimated to exist in western and northwestern Australia. A plus-or-minus factor of about 50 per cent is inherent in this estimate, which is based on aggregated confidential proprietary information and Bureau of Mineral Resources studies. The outer edge of the Northwest Shelf is considered to contain the bulk of undiscovered resources of gas (850 to 1700 x 109m^3, or 30 to 60 TCF). Australia's demonstrated resources of natural gas (i.e. sales gas + condensate + LPG) are poorly distributed in relation to local markets. Most of the demonstrated resources are contained in only three areas—Gippsland Basin, Cooper Basin and the Dampier Sub-Basin of the Carnarvon Basin—and a high proportion of the total is offshore. The Amadeus Basin, which was once expected to be capable of playing a significant role in the supply of gas to Sydney and Adelaide, is now thought to contain demonstrated resources of less than 28 z 10^9m^3 (1 TCF); furthermore, most of this occurs as a gas cap to an oil field and normally would not be recovered until after the oil has been produced.

The following table shows the production of natural gas in Australia in recent years—

NATURAL GAS

Year	*Million cubic metres*
1973–74	4,360
1974–75	4,633
1975–76	5,172
1976–77	6,093
1977–78	6,720
1978–79	7,767

Oil shale

Oil shale is a fine-grained sedimentary rock containing organic matter that yields substantial amounts of oil when heated in a closed retort; the organic matter is mostly insoluble in ordinary petroleum solvents. Oil shales have been deposited in the sea, in lakes, or in coal swamps. Australia has all three types of occurence and spasmodic production took place from some of the deposits of coal-swamp type in New South Wales from the mid 1860s until 1952. The main production was during war-time periods of oil shortage. Small quantities of oil shale were also produced in Tasmania between 1910 and 1934.

The marine shales include a comparatively small deposit of Cambrian age at Camooweal in northwest Queensland, some small deposits of Permian age near Devonport in northern Tasmania, and a very extenisve deposit of Cretaceous age (including the demonstrated deposit at Julia Creek) in the Toolebuc Formation which at various depths underlies an area of about 700,000 square kilometres extending south from the Gulf of Carpentaria to northern New South Wales and northeast South Australia. The Toolebuc oil shale has an average thickness of about 10 metres, has an average yield conservatively estimated at 45 litres of oil/tonne of shale and contains minor amounts of vanadium, uranium and selenium. The vanadium has been considered for economic extraction as a by-product. The deposits in marine shales in Queensland are in geographically remote areas where water supplies are limited.

Lake deposits occur in a number of tertiary basins in eastern Queensland, including the Narrows Craben (The Narrows or Rundle Deposit) and the Duaringa Basin. Yields average less than 100 litres/tonne and areal extent is limited to a few hundred square kilometres. Individual beds in The Narrows deposit are less than 10 metres thick, but the aggregate thickness of oil shale beds and inter-bedded sedimentary rocks is several hundred metres. All of the lake deposits are in geographically favourable locations and for this reason they appear to have the highest potential for exploitation.

Oil shales associated with coal seams are widespread in Permian and Jurassic strata in Queensland and New South Wales. Their areal extent, individually, is small (tens of square kilometres) but yields of oil are high (400–700 litres/tonne). Many of these oil shales are unsuitable for open-cut mining because of thick overburden and extensive faulting. They are, however, relatively well situated geographically and are the only deposits to have been mined in Australia. Total production of oil amounted to about 110,000 cubic metres (700,000 barrels), mainly from Permian coal measures at Glen Davis 150 kilometres northwest of Sydney on the western margin of Sydney Basin.

Uranium

Australia has about 20 per cent of the Western world's low-cost uranium reserves. The largest deposits are in the Northern Territory, with significant deposits in Western Australia, South Australia and Queensland. The only State with plans for a nuclear generating plant for electricity, however, is Western Australia.

The chief use for uranium is as a fuel for power generation in nuclear reactors; minor amounts are used in nuclear weapons and in atomic energy research programs. Relatively small quantities of uranium depleted in the fissionable U^{235} isotope are used for ballast, counterweights and balances in aircraft, radiation shielding, in alloys as a catalyst and glass colorant and in electrical components. The requirement for uranium in power generation is so much larger than the other uses that natural uranium can be regarded for most practical purposes as a fuel for nuclear power reactors.

Uranium exploration began in Australia in 1944 at the request of the United Kingdom and United States Governments. Initial effort was concentrated in the Radium Hill and Mount Painter areas in South Australia, where uranium mineralisation had been discovered in 1906. In 1947 the Australian Government sought the co-operation of State authorities in a general search for uranium, and tax-free rewards were offered in 1948 for discoveries of orebodies. In addition, a guaranteed price schedule for purchase of uranium ores was announced as a stimulus for private prospectors. As a result of these measures, about $225,000 was paid to 35 prospectors under the reward scheme and several significant deposits were identified, particularly in the Katherine–Darwin Region in the Northern Territory and the Mount Isa–Cloncurry Region in Queensland. Exploration activity reached a peak in 1954.

In the period 1954–71 about 9,200 tonnes of U_3O_8 isotope was produced from five plants at Rum Jungle, Moline and Rockhole in the Northern Territory, Mary Kathleen in Queensland and Radium Hill in South Australia. Uranium requirements for defence purposes decreased in the early 1960s and uranium demand and prices fell rapidly, whereupon exploration for uranium almost came to a standstill.

A revival in exploration in the late 1960s was encouraged by the announcement in 1967 of a new export policy, designed to encourage exploration for new uranium deposits while conserving known resources for future needs in Australia. This new bout of exploration was extremely successful—major discoveries were made in South Australia (Beverly Deposit) in 1969 and in the Northern Territory (Ranger, Nabarlek, Koongarra, Jabiluka) in 1970 and 1971. The success led the Australian Government to adopt a new uranium export policy, which was announced in 1971. The new policy contained a system of export controls to ensure that it was to be used for peaceful purposes only. It was also designed to allow the Government to monitor the situation and ensure that adequate uranium supplies were retained for possible Australian use. Encouraged by the major discoveries between 1969 and 1971 and by Government policy towards the export of uranium, exploration activity increased during 1971 and 1972, resulting in further discoveries and substantial additions to Australian resources.

Since the end of 1972 there has been a gradual decrease in uranium exploration activity in Australia, but several new deposits have been discovered since that date and major additions to resources have been delineated at previously known deposits. In 1977–78 the production of uranium concentrate in Australia amounted to 508 tonnes valued at $24,077,000.

For statistics relating to mineral exploration in Australia in recent years *see* the annual publication *Mineral Exploration, Australia* (8407.0).

The *Australian Atomic Energy Commission* (AAEC) was established by the Australian Parliament under the *Atomic Energy Act* 1953 as a statutory body whose main functions are to facilitate the development of Australia's uranium resources and the utilisation of various forms of nuclear energy within the Australian economy.

Moving in its earliest days towards the planning and construction of a nuclear research establishment at Lucas Heights near Sydney, the Commission arranged for a nucleus of scientists and engineers to obtain training and experience through overseas attachments, mainly in the United Kingdom. By the late 1950s an R & D program had been initiated at its research establishment.

The AAEC's activities are controlled by a Commission which is responsible to the Minister for National Development and Energy. The Atomic Energy Act provides for the Commission to consist of five Commissioners including a Chairman.

The Commission's current program places emphasis on the following areas: nuclear fuel cycle; energy research and assessment; radioisotopes and radiation; and international relations.

Current operating expenditure by the AAEC is of the order of $23 million a year. Staff totals some 1,200 professional, technical, trade, administration and support personnel.

The AAEC participates in the activities of the Australian Institute of Nuclear Science and Engineering. The Institute, which has a corporate membership comprising the Commission and the Australian universities, is concerned with the awarding of studentships, fellowships and research grants, with the organising of conferences and with arranging the use of AAEC facilities by research workers within the universities and colleges of advanced education. The Australian School of Nuclear Technology, located at Lucas Heights, is a joint enterprise of the AAEC and the University of New South Wales. Courses are provided regularly on such subjects as Radionuclides in Medicine, and Radiation Protection and Nuclear Technology. Participants have been drawn from Australia, New Zealand, Asia, Africa, Papua New Guinea and the Pacific region.

Thorium

Thorium is about three times as abundant in the earth's crust as uranium. However, because of the resistance of primary thorium minerals to chemical alteration, secondary thorium minerals are rare, thorium therefore occurs in fewer geological environments than uranium. The bulk of potentially exploitable resources of thorium occur in essentially lower grade accumulations than the exploitable resources of uranium. Most of the world's thorium resources occur in monazite, a complex silicate which is currently recovered primarily for its content of rare-earth oxides. Primary thorium minerals (including monazite) are resistant to oxidation and form economically important placer deposits. Large deposits occur throughout the world in beach and stream placers and also as hard-rock deposits in veins, sedimentary rocks, alkalic igneous rocks and carbonatites.

In Australia, by-product monazite in titanium-bearing minerals sands on the east and west coasts of the continent is currently the only economical source of thorium, although other occurrences of thorium minerals are known. Australia currently supplies about half of the world's monazite requirements.

The Australian Government controls the export of thorium and thorium minerals under the authority of the Customs (Prohibited Exports) Regulations as amended from time to time by Statutory Rules. The export of minerals containing thorium and thorium compounds and alloys is prohibited without the approval of the Minister for National Development and Energy.

Solar energy

Solar energy is available to a varying extent, over the entire surface of the earth and because of this it is difficult to evaluate in the same terms as the more conventional, intensive energy sources. Like wind, tidal and wave energy, solar energy is renewable (in a sense, of course, it is inexhaustible) and shares with these energy sources a number of properties which make it both difficult and costly to collect, store and transform into useful work. Solar energy has the inherent characteristics of low intensity and of geographic, seasonal and daily variations.

The Bureau of Meteorology has at present 21 solar radiation stations at which detailed continuous routine measurements are made to standards recommended by the World Meteorological Organisation. These 21 stations were set up following Government approval in 1966 for a network of 22 stations to measure global and diffuse radiation on a horizontal surface. Eighteen have been operating since 1970 and site evaluation is being conducted for a 22nd station.

Solar energy is available in the form of low temperature heat when collected with commercially available flat plate collectors. Further thermal applications of solar energy are in the provision of low-medium temperature process heat for industry, heating and cooling of buildings. Economically successful use of solar energy in these applications will depend on the development of more cost-effective collectors, the careful design of overall systems for storage, transport and use of the energy collectors as well as the price of competing fuels.

As a source of electricity, solar energy may have further uses in supplying remote areas with small-scale electricity generation. In the longer term, plant material resulting from photosynthesis may be a useful source of liquid and gaseous fuels for transportation and there are even longer-range plans to use hydrogen as both an energy source and energy carrier. The significance of the contribution likely to be made by solar energy between now and the end of the century will depend on a number of factors including research and development and the availability and price of alternative fuels.

Ocean thermal energy

Although the potential energy available from ocean thermal energy conversion (OTEC) is enormous, there are many problems to be overcome before it could become viable. These include the limited efficiency of the heat exchanges, the effect of micro-organisms and corrosion on underwater equipment and the economics of transporting power to land-based load centres. Many observers are pessimistic because of the complexity of these engineering problems and regard the potential of OTEC as speculative. In Australia, virtually no assessment of this energy source has been made. It has been suggested that tropical waters such as those off the Queensland coast would be suitable, although power generated from this area would be a considerable distance from the major power consumers in the south.

Wind energy

There are a number of difficulties in assessing wind power as an energy resource, most of these stemming from the fact that wind resources are sources of actual kinetic energy and like the other forms of solar-derived energy, cannot be defined and measured in the same way as resources of chemical, nuclear, or potential energy. Available wind energy varies with the wind speed, which in turn varies with geographic location, height above ground, time of day and the seasons of the year. Even over a restricted area, the wind speed can be sharply influenced by topography, shelter, sea breezes and diurnal heating.

Apart from a program carried out in South Australia in the 1950s there has been no systematic assessment of the wind resources of Australia. Wind measurements are made, however, at various sites throughout Australia for climatological and meteorological purposes and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is at present analysing data from existing weather stations in an attempt to better assess Australia's wind resources.

The effective recoverability of wind resources is limited by the need to transmit the power over long distances in Australia and by the fact that no satisfactory means of storing wind energy on a large scale yet exists. At present the use in Australia of this resource is confined to windmills for water pumping and small electricity-generating wind machines. These have been a useful small-scale alternative to conventional sources of energy in remote and isolated areas of Australia and will probably continue to be so in the future.

Future resource potential is almost entirely dependent on advances in technology which can make wind power competitive with conventional forms of power. In Australia there is not the same need for alternative means of large-scale electricity generation as in other countries because of our abundant coal resources. Most large-scale schemes depend on the conversion of wind energy to hydrogen for storage and distribution and there are many problems yet to be solved to make this a realistic proposition. It is unlikely that there will be large-scale use of this energy source in Australia before the end of this century.

Wood

The rapid rate of depletion of fossil fuels is focusing attention again on wood as a renewable resource and potential production of fuels from agricultural wastes. Several possible ways of obtaining liquid fuels from these sources are being studied in Australia and overseas, including the conversion of energy stored in plant materials such as trees, bagasse, algae, etc, to produce ethanol, methanol and methane or other hydrocarbons. The CSIRO is investigating the feasibility of producing ethanol on a large scale from wood for blending with major spirits. Various fuels may be derived from wood, mainly methanol, ethanol and charcoal. Charcoal can be converted into fuel gas which is usable for a range of applications. Methanol can be produced by pyrolysis of wood, and ethanol by hydrolysis and fermentation of wood cellulose. Another aspect of wood utilisation which is under study in Australia is forestry residues as a source of fuel. Forest residues are the products left after logging, stems which are removed in silvi-cultural treatments and the as yet untapped resource of woodland classed as unproductive. Mill residues comprise bark, sawdust, shavings defective sections of the tree bole and off-cuts.

Based on the definitions and classification adopted by the FORWOOD Conference, 1974, Australia's estimated productive forest area at 30 June 1978 was 43,825,000 hectares. Of this, plantations comprised 699,300 hectares (coniferous 655,100 and broadleaved 44,200 hectares). It is estimated that by 1984–85 total production and consumption in Australia will be 1,442,000 tonnes in terms of primary energy consumed, this quantity represents 22.8×10^{15} joules, an insignificant proportion of Australia's overall energy demand although, especially in South and Western Australia, firewood has had some regional significance.

The 21 MW Mount Gambier power station in the centre of South Australia's most extensive forestry operations area, has operated since 1957 on wood fuel and a 3.2 MW generating station at Nangwarry also uses wood.

It is estimated that the production of sawmill wastes in Australia is 3.5 million tonnes/year. After allowing for the quantities chipped for pulp and other uses, about 2 million tonnes would be available as fuel. Some of this would be included in the composition of firewood by industry. An unknown volume of wood remains, after the logging and the growing and tending of trees as forest residues. Utilisation of this waste involves problems in the cost of concentration and transport. Another source is the large tracts of undeveloped woodlands which could supply resources for fuels.

Ethanol (ethyl alcohol) has been proposed as a possible renewable fuel which could be produced in significant quantities to help meet Australia's needs for transport fuel. Wood cellulose would be chemically hydrolysed to sugars which could then be fermented to ethanol.

It is technically possible to use wood derivatives in many applications as a substitute for fossil fuels, including petrol. However any solar ethanol produced would be used in a blend with petrol of up to 25 per cent ethanol, not as a complete substitute for petrol. On a volumetric basis the calorific value of ethanol is about 0.6 of that of petrol. Its use in internal combustion engines as a total fuel would cause a sharp loss in fuel economy. However, with a 25 per cent ethanol/petrol blend and under appropriate engine conditions, there would be little change in fuel economy.

The Commonwealth Scientific and Industrial Research Organization (CSIRO) is undertaking a program to assess the potential of forests as an energy crop. It does not seem likely that ethanol produced from wood plantations will become a viable alternative liquid fuel. No one particular scheme employing agricultural or forest products is likely to make a significant contribution to Australia's future fuel requirements, but in total they may.

Bagasse

Bagasse is the fibrous residue resulting from the crushing of sugar cane to extract the juices. The bulky material is of low density (25–50 kg/m^3) and is difficult to handle, transport and store. It has a low calorific value. Bagasse provides the bulk of all energy consumed by Australian sugar mills, being used to produce both process steam and electricity. It is important in the cane industry but, although some sugar mills supply excess electricity to public supply systems, this source of energy is not really significant in the overall energy situation. Currently, most sugar mills have more bagasse than is needed for fuel in the mills and the surplus is dumped or incinerated.

Bagasse could have wider applications if it could be made available in a portable form, either baled or briquetted. There have been recent developments in machinery for pressure packaging of fibrous materials such as bagasse which could offer a way of overcoming the problems of low density and concentration. Furthermore, sugar cane tops and trash, which are not now utilised, must be considered as complementary to the bagasse yield. Bagasse is one of the agricultural residues being studied by the CSIRO for possible conversion to methanol.

Electric power

The information contained in this section relates to situations existing and projects contemplated, and may be considerably affected by changes in policy or plans, or by developments in the projects themselves. Greater descriptive and historical detail about the various systems is contained in earlier issues of the Year Book.

ELECTRICITY (*a*)–THERMAL AND HYDRO

Year	*Million kWh*
1973–74	69,743
1974–75	73,933
1975–76	76,597
1976–77	82,522
1977–78	86,095
1978–79	90,871

(*a*) Figures represent estimates of total electricity generated by public utilities, factories generating for their own use, and factories supplying electricity for domestic and other consumption.

Hydro-Power

With the exception of Tasmania, Australia is not well-endowed with hydro-electric resources because of its generally low rainfall and limited areas of high relief. Its hydro-electric resources are confined almost entirely to Queensland, New South Wales, Victoria and Tasmania.

Currently the total installed capacity of hydro-electric generating plant is approximately 5,500 MW, which is about 25 per cent of the total installed capacity of the public electricity supply authorities and provides 20 per cent of the electricity generated owing to its lower use during off-peak periods. Although hydro-electric generating plant currently provides a significant amount of the electricity generated, its relative importance is expected to decline. Most of the economically favourable sites have been developed and only Tasmania and, to a lesser extent, north Queensland, have significant undeveloped resources. The relatively small resources remaining elsewhere may in time be developed for peak load power with or without pumped storage or as ancillary to water management projects. Examples of these respective types are the Shoalhaven Scheme in New South Wales and Dartmouth Dam in Victoria.

Hydro-electric power stations are characteristically high-capital-cost, low-running-cost developments and their economic feasibility compared with thermal stations utilising Australia's abundant resources of low-cost steaming coal is heavily dependent on interest rates and civil construction costs, both of which have increased appreciably in recent years. Tasmania's hydro-power potential is approximately half the total practical potential available in Australia. Currently about 50 per cent of Tasmanian practical potential, which has been estimated at 13,000 GWh/yr. has been developed and projects already committed will raise the proportion to 75 per cent by 1985.

The development of its hydro-power resources has resulted in Tasmania having had the lowest cost electricity in Australia for many years. In recent years, however, the price advantage of hydro-power over coal-fired thermal power has lessened due to the need to develop more remote sites, rising capital costs and high interest rates. Only Tasmania and Queensland have any significant amount of hydro-electric energy left to develop although there are useful amounts left in Victoria and New South Wales. Most of the Queensland potential is in high rainfall areas near Cairns and on the Burdekin River.

Snowy Mountains Hydro-electric Power Act 1949

In July 1949 the Commonwealth Government established the Snowy Mountains Hydro-electric Authority (*Snowy Mountains Hydro-electric Power Act* 1949) and empowered it: to generate electricity by means of hydro-electric works in the Snowy Mountains area; to supply electricity to the Commonwealth Government (i) for defence and other purposes, (ii) for consumption in the Australian Capital Territory; and to supply the surplus to the States of New South Wales and Victoria.

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* *See also* Chapter 15, Water Resources of this issue and the special detailed article in Year Book No. 42, pages 1103–30.

The Snowy Mountains Act is supported by a detailed agreement between the States of New South Wales and Victoria and the Commonwealth Government with regard to the construction and operation of the Scheme, the distribution of power and water, charges to be made for electricity, and other such matters. The Snowy Mountains Council, established under the terms of the Agreement and consisting of representatives of the Commonwealth Government, the Authority and the States of New South Wales and Victoria, directs and controls the operation and maintenance of the permanent works of the Snowy Mountains Scheme for the control of water and the production of electricity.

Snowy Mountains Hydro-electric Scheme*

The broad basis of the Snowy Scheme is to transfer waters, which would otherwise flow to the sea unharnessed, from the Snowy River and its tributaries to the inland system so that the water may be used for irrigation and to provide power. It involves two main diversions: the diversion of the Eucumbene, a tributary of the Snowy, to the Upper Tumut River; and the diversion of the main stream of the Snowy River at Island Bend and Jindabyne to the Swampy Plain River. These two diversions divide the scheme geographically into two sections: the Snowy-Tumut Development and the Snowy-Murray Development (*see* Plate 40, page 469). For purposes of both power production and irrigation it is necessary to regulate run-off, and this is achieved by the use of Lake Eucumbene (formed by the construction of Eucumbene dam) to control the waters of the Eucumbene and other storages to control the waters of the Murrumbidgee, Tooma, and Tumut Rivers for the Snowy-Tumut Development and of the Snowy and Geehi Rivers for the Snowy-Murray Development. For a description of the Snowy-Tumut and Snowy-Murray Development, and progress of the scheme, *see* previous issues of the Year Book.

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* *See also* Chapter 15, Water Resources of this issue and the special detailed article in Year Book No. 42, pages 1103–30.

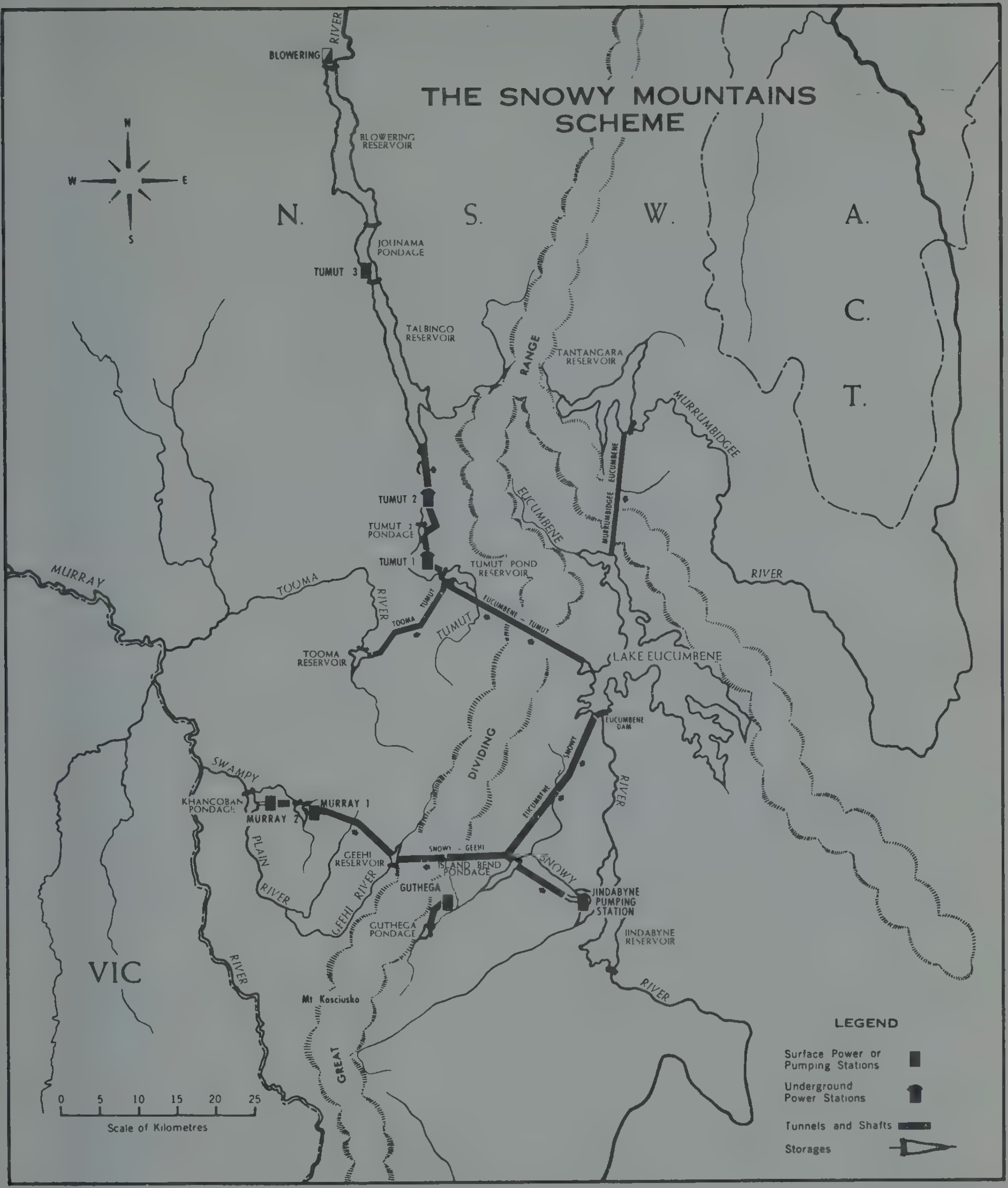
THE SNOWY MOUNTAINS SCHEME
N. S. W.
A. C. T.
VIC
BLOWERING
RIVER
BLOWERING RESERVOIR
JOUNAMA PONDAGE
TUMUT 3
TALBINGO RESERVOIR
RANGE
TANTANGARA RESERVOIR
MURRUMBIDGEE
EUCUMBENE
MURRUMBIDGEE - EUCUMBENE
TUMUT 2
TUMUT 3 PONDAGE
TUMUT 1
TUMUT POND RESERVOIR
MURRAY
TOOMA
RIVER
TOOMA RESERVOIR
TUMUT
EUCUMBENE - TUMUT
LAKE EUCUMBENE
EUCUMBENE DAM
DIVIDING
SNOWY
SWAMPY
KHANCOBAN PONDAGE
MURRAY 1
MURRAY 2
PLAIN
RIVER
GEEHI RESERVOIR
GEEHI RIVER
SNOWY - GEEHI
ISLAND BEND PONDAGE
GUTHEGA
GUTHEGA PONDAGE
JINDABYNE PUMPING STATION
JINDABYNE RESERVOIR
Mt Kosciusko
GREAT
0 5 10 15 20 25
Scale of Kilometres
LEGEND
Surface Power or Pumping Stations
Underground Power Stations
Tunnels and Shafts
Storages

PLATE 40

Utilisation of power from scheme

The Snowy Mountains Scheme is situated about midway between the principal load centres of Sydney and Melbourne and is connected to those cities by 330 kV transmission lines. It is, consequently, in a position to take advantage of the diversity in the power requirements of these two load systems, a most important factor in so far as it affects the economy of operation of the supply systems of the two States. The average annual notified energy of the Snowy Mountains Hydro-electric Scheme is 5,129 GWh a year. The Commonwealth Government reserves 670 GWh for supply to the A.C.T.; for convenience, the Commonwealth Government's requirements are drawn from the New

South Wales transmission network by an exchange arrangement between the Commonwealth Government and the Electricity Commission of New South Wales. Electricity over and above that required by the Commonwealth Government is divided between the States of New South Wales and Victoria in the ratio 2:1.

Electricity generation and transmission

NEW SOUTH WALES

Electricity Commission of New South Wales and electricity supply authorities

The main function of the Commission is the generation and transmission of electricity, which it sells in bulk to distributing authorities (mainly local government bodies) throughout a large part of the State, to the Government railways and to certain large industrial consumers. As the major generating authority, it is also responsible for the development of new power sources except in the Snowy Mountains region.

The retail sale of electricity to the public is, in general, carried out by separate electricity supply authorities. At 30 June 1979 there were 41 retail supply authorities throughout the State, comprising 33 electricity county councils (consisting of groups of shire and/or municipal councils), 3 city councils, 1 municipal council, 2 shire councils, and 2 private franchise holders.

Most electricity distribution areas have been consolidated into country districts consisting of a number of neighbouring local government areas grouped for electricity supply purposes and administered by a county council comprising representatives elected by the constituent councils. Of the 205 cities, municipalities and shires in New South Wales, 198 are included in one or other of the 33 electricity county districts.

The Energy Authority of New South Wales (Incorporating The Electricity Authority of New South Wales)

The Electricity Development Act, 1945, confers broad powers on the Energy Authority to co-ordinate and develop the public electricity supply industry. The functions of the Authority include the promotion of the use of electricity, especially its use for industrial and manufacturing purposes and for primary production. Technical advice is given to retail electricity supply authorities on various aspects of their activities such as the framing of retail electricity tariffs, public lighting and the standardising of materials and equipment.

The Authority administers the Rural Electricity Subsidy Scheme under which the rural electrical development of the State has now been virtually completed where the extension of supply is economically feasible. Under the subsidy scheme, local electricity suppliers receive subsidies from the Authority towards the cost of new rural lines. At 30 June 1979 the Authority was committed to the payment of $42,405,578 in subsidies, of which $36,505,374 had been paid. Further details of the operation of the scheme are given in Year Book No. 56, page 956.

The Authority also administers the Traffic Route Lighting Subsidy Scheme, which provides for financial assistance to councils towards the cost of installation of improved lighting on traffic routes traversing built-up areas with the objective of reducing the incidence of night road accidents. Since the introduction of the scheme in 1964, subsidy has been approved in respect of some 1,767 kilometres of traffic routes throughout the State.

Generation and transmission

Of the State's electrical power requirements during the year ended 30 June 1979, almost all was generated in New South Wales (84.9 per cent by coal fired power stations, 0.3 per cent by internal combustion plants, 12.5 per cent from the Snowy Mountains Hydro-electric Authority and 1.8 per cent by other hydro-electric stations). Net interstate exports of electricity accounted for the remaining 0.5 per cent.

Major generating stations. At 30 June 1979 the major power stations of the State system of the Electricity Commission of New South Wales and their nominal capacities were as follows: Liddell (Hunter Valley), 2,000 MW; Munmorah (Tuggerah Lakes), 1,400 MW; Vales Point (Lake Macquarie), 2,195 MW; Wangi (Lake Macquarie), 330 MW; Tallawarra (Lake Illawarra), 320 MW; Wallerawang (near Lithgow), 740 MW; Pyrmont (Sydney), 200 MW. The total nominal capacity of the Electricity Commission's system as at 30 June 1979 was 7,737 MW. The greater part of the Commission's generating plant is concentrated within a one hundred and eighty-five kilometre radius of Sydney.

Major transmission network. The retailing of electricity to 97 per cent of the population of New South Wales is in the hands of local distributing authorities, which obtain electricity in bulk from the Commission's major State network. This network of 330 kV, 132 kV, 66 kV and some 33 kV and 22 kV transmission lines links the Commission's power stations with the load centres throughout the eastern portions of the State, extending geographically up to 650 kilometres inland.

At 30 June 1979 there were in service 3,550 circuit kilometres of 330 kV and 6,936 kilometres of 132 kV transmission lines (including 298 kilometres operating for the time being at 66 kV). There were also in service 4,829 kilometres of transmission line of 66 kV and lower voltages, and 505 kilometres of underground cable. The installed transformer capacity at the Commission's 162 substations was 25,446 MVA.

Separate systems and total State installed capacity. Several local government bodies operate their own power stations and generate portion of their requirements which is supplemented by interconnection with the system of the Electricity Commission. Of these, the more important are the Northern Rivers County Council (installed capacity 28.75 MW) and the North-West County Council (15 MW). In addition, a private company operates small stations supplying the towns of Ivanhoe and Wilcannia. The aggregate effective capacity for the whole of New South Wales systems and isolated plants was approximately 7,805 MW at 30 June 1979, while the number of ultimate consumers at this date was 1,939,596.

Future development

Future projects include the installation of one extra 500 MW unit at Wallerawang in 1981, and four units of 600 MW each at Eraring in the central coast. Tenders have been invited and environmental impact statements have been issued for the installation of two 660 MW units at each of Bayswater Power Station near Liddell and Mount Piper Power Station near Wallerawang.

The development of the 330 kV main system is continuing. A new 330 kV substation at Beaconsfield West has been commissioned and a major 330 kV underground cable circuit has been completed to that substation from the one at Sydney South. Work is in an advanced stage on the 330 kV line from Wagga to Jindera (north of Albury) which will also be extended to interconnect with the Victorian system. Other work is in progress and being planned throughout the State to augment the transmission system including the first 500 kV transmission line between Eraring Power Station and Kemps Creek Substation.

Hydro-electricity

The greater part of the hydro-electric potential of New South Wales is concentrated in the Snowy Mountains area (*see* Snowy Mountains Hydro-electric Scheme, page 467). Apart from this area, major hydro-electric stations are in operation at the Warragamba Dam (50 MW) and Hume Dam (50 MW). In addition, there are six smaller hydro-electric installations in operation in various parts of the State. A pumped-storage hydro-electric system to produce 240 MW has been installed as part of the Shoalhaven Scheme in conjunction with the Metropolitan Water Sewerage and Drainage Board.

VICTORIA

State Electricity Commission of Victoria

Established under earlier legislation and currently operating under the provisions of the *State Electricity Commission Act* 1958, No. 6377 as a semi-government authority, the principal function of the Commission is to generate or purchase electricity for supply throughout Victoria. The Commission may own, develop and operate brown coal open cuts, and briquetting plant and develop the State's hydro-electric resources. The Commission is required to meet from its own revenue, which it controls, all expenditure involved in operating its power and fuel undertakings and to provide for statutory transfers to the Consolidated Revenue fund of the State.

Since it began operating in 1921 the Commission has expanded and co-ordinated the generation, purchase and supply of electricity on a State-wide basis to the stage where its system generates almost all the electricity produced in Victoria (which has an area of 228,000 sq km) and the transmission network covers practically the entire population of the State. As at 30 June 1979, the Commission had gross fixed assets of $2,695 million, employed 19,827 persons, had a total income of $640 million and, during the preceding twelve months, had increased sales of electricity by 5.9 per cent.

Victoria's electricity system is based on the utilisation of the extensive brown coal deposits in the La Trobe Valley in Central Gippsland, about 140 to 180 km east of Melbourne. Proven deposits total about 65,000 megatonnes, of which about 29,400 megatonnes are commercially recoverable at present day costs.

In 1978–79 the output of brown coal from the Commission's three open cuts at Yallourn, Yallourn North and Morwell totalled 30.9 megatonnes of which 27.7 megatonnes were used in the Commission's power stations. A further 3.0 megatonnes were used to produce 1.1 megatonne of briquettes and 0.26 megatonne was sold to the public. Sales of briquettes to the public totalled 683,000 tonnes, producing an income of $12.7 million and 416,000 tonnes were used as fuel in power stations.

Electricity generation transmission and supply

In 1978–79 the Commission generated in its thermal and hydro-electric power stations, or purchased, 212,276 GWh. The total installed generating plant capacity at 30 June 1979 was 4,946 MW, inclusive of the capacity both within the State and available to Victoria from New South Wales.

The power stations are interconnected and feed electricity into a common pool for general supply. The major generating plant in the interconnected system is the 1,600 MW Hazelwood base load, brown-coal-fuelled power station near Morwell in the La Trobe Valley, which alone generates nearly half of Victoria's electricty. Other brown coal power stations in the interconnected system comprise the established base load stations at Morwell and Yallourn and the partially completed Yallourn 'W' station. Peak load thermal stations are located in Melbourne (Newport, Richmond and Spencer Street and at Jeeralang in the La Trobe Valley). Hydro-electric stations are located at Kiewa, at Eildon, on the Rubicon and Royston Rivers near Eildon and at Cairn Curran. All generators for public supply within Victoria are owned by the Commission except Spencer Street Power Station, which remains the property of the Melbourne City Council although operated as a unit of the interconnected system.

Generation in thermal stations is supplemented by supply from the Commission's hydro stations in the mountains in the north-east of the State and by entitlements from the Snowy Mountains Hydro-electric Scheme in south-eastern New South Wales (one third of output after provision for the Commonwealth Government's needs) and the Hume Power Station on the Murray River boundary with New South Wales (half of output). The Snowy Mountains Scheme is linked to the Victorian system by nine 330 kV transmission lines which allow for a two-way interchange with New South Wales.

At 30 June 1979 the electrical transmission and distribution system in the State supply network comprised 109,465 kilometres of overhead lines and 3,688 kilometres of underground lines. There are 4 auto-transformation stations, 26 terminal substations, 181 zone substations and 81,292 distribution sub-stations. Transmissions is mainly by 500, 330, 220 and 66 kV lines which supply the principal distribution centres and provide interconnection between the power stations. The total length of the 500, 330 and 220 kV lines is 3,738 kilometres.

The Commission sells electricty retail in all Victorian supply areas except for eleven Melbourne metropolitan municipalities. These municipalities purchase electricity in bulk from the Commission and retail it to approximately 270,100 customers within the municipalities concerned under franchises granted by the Victorian Government before the Commission was established in 1921. Bulk supply is also provided to several municipalities in New South Wales and to a number of towns and areas bordering the Murray River.

Complete electrification of the State has virtually been achieved and only a few remote areas do not receive supply. At 30 June 1979 the Commission had 1,268,600 retail customers excluding bulk sales, and the income derived was $506.1 million. There were 1,083,600 domestic, 80,800 industrial and 102,700 commercial consumers. In country areas electricity was supplied to about 76,500 farms. Sales of electricity during the period, including bulk supplies, totalled 17,366 GWh and produced total income of $618 million.

Current and future development

Power station projects currently under construction are Yallourn W, Loy Yang and Jeeralang gas turbine station in La Trobe Valley, Newport in Melbourne and Dartmouth in north eastern Victoria. Yallourn W is designed as a 4 unit, base load station of 1,450 MW capacity fuelled by brown coal. The first two 350 MW units are now in commission. The second two units, each of 375 MW capacity, are scheduled to begin operating in 1980 and 1981. The Commission is erecting a 500 MW natural gas fired power station at Newport to come into operation in 1980. A hydro-electric station with one 150 MW unit capacity is being built at Dartmouth in conjunction with the dam currently under construction to come into operation during 1980. The largest project is a major base load generating complex of about 4,000 MW capacity at Loy Yang in the eastern part of the La Trobe Valley, planned to come into service progressively from 1983. A new coalfield is being opened for this development. At Jeeralang, near Morwell, a 226 MW gas turbine station has been constructed and a second station of 240 MW capacity will be put into service progressively from late 1979.

QUEENSLAND

Legislation

Queensland's electricty supply industry is regulated by the *Electricity Act* 1976–1979. This Act deals with the organisation and regulation of the generation, transmission, distribution, supply and use of electricity in Queensland and to matters of safety associated with these functions.

State Electricity Commission of Queensland

It's main functions are to plan and ensure the proper development and coordination of the electricity supply industry throughout the State, to enforce safety regulations, to control electricity charges, to raise capital for development, and to administer all electricity supply legislation.

Organisation

Generation and main transmission are functions of the Queensland Electricity Generating Board. It operates the power stations and main transmission lines in the interconnected grid supplying power from Cooktown to the New South Wales border and west to centres such as Winton and Julia Creek.

The Queensland Electricity Generating Board supplies energy in bulk to seven distributing boards whose responsibility is the distribution of electricity to retail consumers in their respective areas. These boards are the South East Queensland Electricity Board, the South West Queensland Electricity Board, the Wide Bay-Burnett Electricity Board, the Capricornia Electricity Board, the Mackay Electricity Board, the North Queensland Electricity Board and the Far North Queensland Electricity Board.

Four of these distributing boards (the South West Queensland, Capricornia, North Queensland and Far North Queensland) also operate small internal combustion stations in their respective areas.

Electricity generation, transmission and distribution

Electricity generated in the State is based primarily on steam power stations using black coal, 92 per cent of the total production during 1978–79 being derived from this fuel. Hydro-electric stations located mainly in North Queensland provided 7 per cent, and the balance of the production was provided from diesel power and gas turbine stations. These diesel power and gas turbine stations use light fuel oil as their energy source. The power station at Roma also uses locally-produced natural gas. Electricity generated in Queensland in power stations during 1978–79 totalled 10,570 GWh. A further 123 GWh were purchased in bulk from other producers of electricity for re-distribution to consumers.

At 30 June 1979 the total generating capacity of all public supply authorities in Queensland was 3,077 MW, comprising 2,734 MW of steam plant, 132 MW of hydro-electric plant, 48 MW of internal combustion plant and 163 MW gas turbine plant.

The southern-central electricity network is served by the following steam power stations: Swanbank 'A' (396 MW), Swanbank 'B' (480 MW), Tennyson 'A' (120 MW), Tennyson 'B' (120 MW), Bulimba (180 MW), Howard (38 MW), Gladstone (1,100 MW) and Callide (120 MW). Gas turbine stations at Middle Ridge (60 MW), Swanbank 'C' (30 MW), Rockhampton (25 MW) and Gladstone (14 MW) also serve the southern-central network. The northern electric network is supplied by a steam power station at Collinsville (180 MW), hydro-electric stations at Kareeya (72 MW) and Barron Gorge (60 MW) and a gas turbine station at Mackay (34 MW).

The electrical transmission and distribution systems within the State comprised approximately 108,350 circuit kilometres of electric lines at 30 June 1979. The main transmission voltages are 275 kV, 132 kV, 110 kV, 66 kV and in certain areas 33 kV and 22 kV. The electricity supply industry's extensive rural electrification program continued using the single wire earth return system, and nearly 25,800 kilometres of this system of distribution were in service at 30 June 1979.

At 30 June 1979 the total number of electricity consumers was 762,000.

Future development

Construction of the power station at Gladstone in Central Queensland is well advanced. When complete, this station will consist of six 275 MW steam sets and one 14 MW gas turbine set. The first four steam sets and gas turbine set are fully operational. The remaining two sets are due for completion in early 1981 and 1982 respectively.

Approval has been given by the Government to proceed with the Wivenhoe Pumped Storage Hydro-Electric Project in conjunction with the construction of the Wivenhoe Dam on the Brisbane River. The power station will consist of two 250 MW pump turbine units, to be commissioned in 1983, at an estimated cost of $164 million. Contracts have been placed for the major plant items comprising turbines, pumps and generators, and construction is underway on the major civil works associated with the project.

The Tarong coalfield will be the site of the next major thermal power station. A 1,400 MW station comprising four 350 MW sets will be established, with the first set due to commence operating in 1984.

The original commencement date of 1985 has been advanced following the announcement of major industrial developments requiring large quantities of electrical energy.

SOUTH AUSTRALIA

Electricity Trust of South Australia

In 1946 the assets of the Adelaide Electric Supply Co. Ltd were transferred to a newly-formed public authority, the Electricity Trust of South Australia, which became responsible for unification and co-ordination of the major portion of the State's electricity supply and which took over the powers previously vested in the South Australian Electricity Commission. In addition to the powers specified in the Adelaide Electric Supply Company's Acts, 1897–1931, the Trust may supply electricity direct to consumers within a district or municipality with the approval of the local authority; arrange, by agreement with other organisations which generate or supply electricity, to inter-connect the mains of the Trust with those of other organisations; and give or receive supplies of electricity in bulk.

Capacity and production

Of the total installed capacity in South Australia at 30 June 1977, the Electricity Trust operated plant with a capacity of 1,615 MW, making it the most important authority supplying electricity in the State. There were approximately 542,100 ultimate consumers of electricity in the State, or whom 533,800 were supplied directly and approximately 8,300 indirectly (i.e. through bulk supply) by the Trust. Its major steam stations are Osborne (240 MW), Port Augusta Playford 'A' (90 MW) and Playford 'B' (240 MW), and Torrens Island (880 MW). The Trust also operates a turbo-generator station at Dry Creek (156 MW) and a small station at Port Lincoln (9 MW).

The two main fuels used by the Trust are sub-bitumenous coal from Leigh Creek for the Playford power stations at Port Augusta and natural gas from the Gidgealpa-Moomba field for the Torrens Island and Dry Creek stations.

WESTERN AUSTRALIA

State Energy Commission of Western Australia

On 1 July 1975 the Government of Western Australia combined the State Electricity Commission and the Fuel and Power Commission to form a new organisation known as the State Energy Commission of Western Australia. The new Commission is specifically charged with the responsibility for ensuring the effective and efficient utilisation of the State's energy resources and for providing its people with economical and reliable supplies of electricity and gas.

The Commission operates coal-burning power stations at East Perth, South Fremantle, Bunbury and Muja and a coal and oil-burning station at Kwinana. A small hydro-electric station is situated at Wellington Dam near Collie and there is a gas turbine generating plant at Geraldton. A uniform tariff electricity supply is provided from these stations through an interconnected grid system to the Metropolitan Area and the South-West and Great Southern Areas, including an area extending to Koolyanobbing and northwards as far as Binnu beyond Northampton. The Commission also owns and operates diesel power stations at Esperance, Fitzroy Crossing, Halls Creek, Kununurra, Onslow, Port Hedland and Roebourne.

Small electricity supply systems too remote to be connected to the grid system or supplied from the Commission-owned diesel stations are still controlled by local government authorities and are being absorbed in a leasing arrangement whereby the local generating plant and distribution system is operated by the Commission under an arrangement known as the Country Towns' Assistance Scheme. Under the scheme, the Commission undertakes to operate, maintain, replace or upgrade plant and supply equipment as necessary. At the present time there are 32 country towns supplied under the provisions of the Country Towns' Assistance Scheme.

The Commission is also studying various possible alternative methods of supplying power to remote areas of the State. Projects in this regard include the testing of wind powered electric generators on Rottnest Island and a solar power plant at the Commission's Northern Gas Depot at Ballajura. The integration of separate power generation facilities in the Pilbara and a hydro-electric power station at the Ord Dam are also being considered.

Natural gas is reticulated in most areas of the Perth metropolitan region and in Pinjarra, simulated natural gas (SNG) is reticulated in the Bunbury area, and tempered liquefied petroleum gas (TLP) is reticulated in Albany.

Some details of the Commission's activities for the year ending June 1979 are: number of electricity consumer accounts, 391,940 and gas consumer accounts, 91,886; electricity generated 4,814 GWh; gas sold 1,093,279,565 units; fuel used for electricity generation 2,190,765 tonnes of coal, 269,590 tonnes of fuel oil, and 65,827,339 litres of diesel fuel.

Sales for the year ending 30 June 1979, compared with those for the preceding year, show an increase of 4.4 per cent for electricity and 16.89 per cent for gas.

TASMANIA

A considerable part of the water catchment in Tasmania is at high level. The establishment of numerous dams has created substantial artificial storage which has enabled the State to produce energy at a lower cost than elsewhere in Australia and in most other countries. Another factor contributing to the low cost is that rainfall is distributed fairly evenly throughout the year with comparatively small yearly variations. Abundant and comparatively cheap supplies of electricity played an important role in attracting industry to Tasmania. For information on hydro-electric development in Tasmania prior to the establishment of the Hydro-Electric Commission in 1930, *see* Year Book No. 39, pages 1192–3.

Hydro-Electric Commission

The Commission was created in 1930, taking over the activities of the Hydro-Electric Department and the existing small hydro-electric installations. Development initially concentrated on hydro-electric generation feeding into a State-wide power grid (King Island from 1951 and Flinders Island from 1968 are outside the grid and are supplied by diesel generators). Unusually low rainfall during 1967 severely restricted the State's generating capacity and prompted the construction of a substantial oil-fired thermal station with a capacity of 240 MW. This station, completed during 1974, is used as required.

Output and capacity of hydro-electric system

For information on the development of the Tasmanian generating system *see* Year Book No. 61, pages 984–985.

The generator capacity of the Tasmanian system was: hydro, 1,540.4 MW; oil-fired thermal, 240 MW; and diesel, 2.0 MW. Two generators in the Gordon River Hydro-Electric Scheme, Stage 1, were commissioned during 1978, increasing generating capacity by 288 MW. The hydro system's sustainable long-term average loading is estimated at 854 MW.

The current development program involves construction of a system based on the Pieman, Murchison and Mackintosh Rivers in Western Tasmania; these works, which were commenced in 1973, will add 418 MW to the State's power grid.

In October 1979, the Commission released a report which recommended to the Government that an integrated hydro development on the Lower Gordon, King and Franklin Rivers in south-west Tasmania be developed. Other viable alternatives to meet the State's forecast demand for electricity from 1990 to 2000 investigated included a separate development of the same three rivers, a coal-fired thermal station and importation of electricity from Victoria by an underwater cable. The recommended hydro development was planned to add 172 MW to average output in 1990 and a further 168 MW (average) in 1995. The estimated cost of electricity generated from this scheme was under half the cost of that obtainable from a coal-fired station and only 40 per cent of that obtainable via a Bass Strait link with Victoria. The Government was not expected to make a decision on the recommendation until mid-1980.

AUSTRALIAN CAPITAL TERRITORY

The supply authority is the A.C.T. Electricity Authority which took over the functions of the Canberra Electric Supply Branch, Department of the Interior, on 1 July 1963. Supply was first made available in Canberra during 1915 and was met from local steam plant. Connection to the New South Wales interconnected system was effected in 1929, and all requirements are now taken from this system. Locally-owned plant consists of 3 MW diesel alternators which are retained as a standby for essential supplies. The total number of ultimate consumers at 30 June 1979 was 78,608. During the year 1978–79 the bulk electricity purchased was 1,386 GWh and the system maximum demand was 359 MW.

NORTHERN TERRITORY

Since 1 July 1978, the responsibility for the generation and distribution of electricity has been under the control of the Northern Territory Electricity Commission, a statutory body which came into operation with the establishment of Self Government in the Northern Territory.

The major electricity supply source in Darwin in Stokes Hill Power Station, an oil-fired steam power station with an installed capacity of 141 MW. There is also a standby gas turbine with a capacity of 10 MW.

A new power station at the outer Darwin suburb of Berrimah is due for commissioning late 1979. It consists of two 16.2 MW gas turbine units.

Alice Springs, Pine Creek, Katherine, Mataranka, Larrimah, Tennant Creek, Elliott and Tea Tree are supplied by diesel power stations. At Alice Springs a new 6 MW generator commissioned late in 1978 took the generating capacity to 30.8 MW and planning is underway for stage four of the power station. Katherine is supplied by an 8.5 MW diesel station while Tennant Creek Power Station's capacity has risen to 6.4 MW with the commissioning early in July, 1978 of a fourth 1.6 MW unit.

Planning is already underway for the installation of one, and possibly two more machines of similar capacity to meet rapidly increasing load growth in the town.

Other power stations operated by the Commission are: Pine Creek (950 kW), Mataranka (400 kW), Elliott (340 kW), Tea Tree (170 kW) and Larrimah (110 kW). Nabalco operates a 110 MW oil-fired steam power station at Gove as well as a 12 MW diesel station.

Other communities and Aboriginal settlements in the Territory generate their own power.

The Northern Territory Electricity Commission is currently investigating a number of alternative proposals for augmenting electricity supplies in the major centres. These include coal, hydro-electricity from the Ord River and from Territory rivers, natural gas and oil from Central Australia.

Electricity and gas establishments

For electricity and gas, the basic census unit is an exception to the general concept of the standardised unit. Because of the nature of the activities of electricity and gas undertakings, the single operating location basis is not suitable. The establishment unit used consists of all locations, including administrative offices and ancillary units which are mainly concerned with the production and/or distribution of electricity or gas and which are operated by the undertaking in the one State. The use of this concept is one of the reasons for the number of electricity and gas establishments since 1968-69 being considerably less than in previous years. The other main reason is that until 1967-68 a number of electricity generating stations operated by enterprises principally for their own use were included. However, as from 1968-69, these generating stations have been included in the Electricity Census only if sales and transfers of electricity exceeded $100,000 in value.

ELECTRICITY AND GAS ESTABLISHMENTS—SUMMARY OF OPERATIONS, 1977-78

State or Territory	Establishments at 30 June	Employment at 30 June			Wages and salaries ($m)	Turnover ($m)	Stocks		Purchases, transfers in and selected expenses ($m)	Value added ($m)	Rent and leasing expenses ($m)	Fixed capital expenditure less disposals ($m)
		Males (No.)	Females (No.)	Total (No.)			Opening ($m)	Closing ($m)				
New South Wales—												
Electricity	47	24,709	2,323	27,032	314.7	1,483.8	107.2	131.6	726.7	781.5	3.8	249.1
Gas	21	2,345	511	2,856	31.6	111.5	12.7	13.6	43.4	69.0	0.4	11.1
Victoria—												
Electricity	13	15,622	1.390	17,012	198.2	885.0	44.8	51.6	298.4	593.5	3.9	237.9
Gas	1											
Queensland—												
Electricity	11	8,984	929	9,913	116.0	622.3	30.1	35.7	355.4	272.5	1.3	180.3
Gas	7	596	108	704	6.8	30.4	1.7	1.9	13.2	17.4	0.2	2.1
South Australia—												
Electricity	10	5,764	330	6,094	73.1	234.1	17.9	18.6	74.7	160.1	0.2	53.9
Gas	2											
Western Australia—												
Electricity	11	5,232	392	5,624	68.9	259.5	21.3	22.4	100.1	160.6	–	89.0
Gas	2											
Australia(*a*)—												
Electricity	96	60,271	5,046	65,317	766.8	3,386.3	213.7	255.4	1,520.4	1,907.6	7.9	828.6
Gas	34	7,715	1,367	9,082	99.7	388.5	31.4	31.5	144.5	244.1	2.6	55.1

(*a*) Includes Tasmania, Northern Territory and Australian Capital Territory. At the end of June 1978 there were 2 electricity and 1 gas establishment operating in Tasmania; 1 electricity establishment in the Northern Territory and 1 electricity establishment in the Australian Capital Territory.

Other energy crops

Other types of crops, which produce materials more amenable to conversion to fuel, may offer more potential. Crops at present being considered for this purpose include cereal grains, cassava and sugar cane. Cereal grains and cassava produce starch. The conversion of sugar and starch to ethanol is a well established and straightforward industrial process. The major problems, which also arise with large tree plantations, are that crop production for energy must also compete with alternative uses of the agricultural resources employed (land, labour, capital, water, fertiliser) and that there are alternative uses for these crops, including human food, animal foodstuffs and fibre. The CSIRO is at present investigating the possibility of growing sugar cane, cassava and cereal grains for fuel production on land not now used for crop production. Their results may give an indication of the potential for producing energy in this way.

Geothermal energy

Most of Australia's geothermal resources are of the conduction-dominated type. The most extensive and well documented study in Australia of subsurface temperatures has been made in boreholes in the Great Artesian Basin. In this basin, about 20 per cent of indexed water bores penetrate to depths greater than 1000m and since geothermal gradients are generally greater than 30°C/1000m, it is reasonable to assume that hot water can be obtained from such aquifers. Of the total number of indexed water bores, only a very small proportion have water temperatures greater than 100°C.

Australia's geothermal resources in other basins are probably comparable with that in the Great Artesian Basin, since the extraploration of flow rates and temperatures to other sedimentary basins is considered geologically reasonable. On a regional scale, it is unlikely that assessments of Australia's geothermal energy will change significantly, although it is possible that local areas of intense heat could be found.

In Australia, it has been estimated by the Bureau of Mineral Resources that identified (demonstrated and inferred) geothermal resources are about 1 per cent of Australia's annual primary energy consumption. This estimate, however, does not imply that these resources are economic, nor that they could be used for efficient electricity generation. Undiscovered geothermal resources may be many orders of magnitude greater than the above estimate.

Tidal energy

Tidal energy is a dispersed energy source derived from regular fluctuations in the combined gravitational forces exerted by the moon and the sun, at any one point on the earth's surface, as the earth rotates. The mean tidal range in the open ocean is about 1 metre, but under suitable hydraulic and topographical conditions, much higher tides than this build up in places around coasts, due to resonance. Because only two commercial tidal plants exist so far in the world, relatively little is known about the possible environmental impact of large-scale utilisation. It is unlikely, however, that tidal installations would be entirely without effect on the ecological life of bays and estuaries within their area of influence due, for instance, to silting and concomitant dredging.

Around Australia there are theoretically very large amounts of tidal energy available, especially on the north-west coast where the tidal range is as great as 11 metres and where the topography is suitable. The tidal potential of this region has been the subject of a series of investigations, including one carried out in 1965 on one of the most promising sites at Secure Bay. It was concluded that a minimum of 12 years' design and construction time would be required, although the cost of electricity at the site would be similar to that derived from conventional thermal stations. However, the long distances to potential markets result in a doubling of these electricity generation costs. Subsequent studies by the State Energy Commission of Western Australia have indicated that lead times and construction costs could be reduced but not sufficiently to make tidal energy economically attractive even if a suitable electricity consumer were nearby.

At present CSIRO has in hand a limited investigation of the tidal resources of Australia. Whatever the conclusions of this survey, the likelihood of early exploitation of this resource would appear to be less than in other countries, if only because of the long distances involved in transmission to population centres. In Australia, the major consumer regions are located along coastlines where the tidal range is very small.

CHAPTER 19

HOUSING AND CONSTRUCTION

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HOUSING AND CONSTRUCTION

This chapter gives details of: the characteristics of dwellings obtained from censuses (pages 481-2); government activities in the field of housing (pages 482-92); financial arrangements associated with the erection or purchase of homes (pages 492-6); a summary of building activities (pages 496-9); and summary of construction (other than building) activities (pages 499-500).

HOUSING

Census dwellings

Further information on dwellings obtained from censuses is available in the detailed tables of the publications issued for each individual census. A list of the 1971 and 1976 Census publications is shown in the ABS *Catalogue of Publications* (1101.0). The most relevant 1976 census publication is *Population and Dwellings: Summary Tables* (2409.0 to 2417.0). More detailed unpublished dwellings information is available on microfiche and are listed in the *Catalogue of 1976 Census Tables* (2103.0).

At each census of the population, in addition to the questions relating to personal particulars, there have been a number of questions relating to dwellings. A 'dwelling' is defined as any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building, and includes, in addition to houses and self-contained flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution. This section contains particulars of such information on dwellings as is available from the 1976 Census, together with information from earlier censuses.

Number of dwellings

The following table shows the number of occupied and unoccupied dwellings in Australia at each census from 1947 to 1976. Occupied dwellings are classified into 'private' and 'non-private' dwellings.

Private dwellings were classified into the following categories for the 1976 Census:

private house—includes separate, semi-detached, attached and terrace or row houses.
villa unit—also includes dwellings variously described as town house, cottage unit, villa development, cottage flats.
self-contained flat—part of a house or other building which can be completely closed off and which has its own cooking and bathing facilities. Includes home units.
other private dwellings—comprises non-self-contained parts or rooms of houses, flats or other premises. Also includes sheds, tents, garages, caravans and houseboats occupied on a permanent or semi-permanent basis.

Non-private dwellings include hotels, motels, boarding houses and hostels, educational, religious and charitable institutions, hospitals, defence and penal establishments, caravan parks, staff barracks and quarters, etc.

An unoccupied dwelling is defined as a structure built specifically for private living purposes and which is habitable though unoccupied at the time of the Census. The total number of unoccupied dwellings shown for any area does not represent the number of vacant dwellings available for sale or renting.

DWELLINGS(*a*): AUSTRALIA, CENSUSES, 1947 TO 1976

	Occupied			
Census	*Private*	*Non-private*	*Total*	*Unoccupied*
1947	1,873,623	34,272	1,907,895	47,041
1954	2,343,421	36,932	2,380,353	112,594
1961	2,781,945	35,325	2,817,270	194,114
1966	3,155,340	33,917	3,189,257	263,873
1971	3,670,553	24,006	3,694,559	339,057
1976	4,140,521	21,543	4,162,064	431,200

(*a*) Excludes dwellings occupied solely by Aboriginals before 1966.

The total numbers of occupied and unoccupied dwellings in each State and Territory at the Censuses of 1971 and 1976 were as follows:

DWELLINGS: CENSUSES, 1971 AND 1976

	Census 30 June 1971		*Census 30 June 1976*	
State or Territory	*Occupied*	*Unoccupied*	*Occupied(a)*	*Unoccupied*
New South Wales	1,364,542	124,522	1,499,001	152,960
Victoria	1,015,485	88,521	1,126,304	119,592
Queensland	517,245	51,077	602,426	62,686
South Australia	344,112	30,553	392,253	39,768
Western Australia	286,845	28,274	339,105	34,064
Tasmania	110,420	13,307	122,573	15,786
Northern Territory	17,792	929	23,270	2,292
Australian Capital Territory	38,118	1,874	57,132	4,052
Australia	**3,694,559**	**339,057**	**4,162,064**	**431,200**

(*a*) Includes non-private dwellings.

Former Arrangements between Commonwealth and State Governments

Over the period between 1945 and 1971, public housing was provided under the terms of a series of Housing Agreements entered into between the Commonwealth and the State Governments. For more detailed explanations, *see* Year Book No. 61, page 228.

With effect from 1 July 1971, a new arrangement was introduced under which the State Governments allocated loan funds for public housing purposes and were financially assisted by the Commonwealth making payments of non-repayable interest-free grants under the *States Grants* (*Housing*) *Act* 1971. Originally, that Act was to operate in respect of five financial years, but in 1973 it was amended to apply to operations in 1971–72 and 1972–73 only. For further information regarding the *States Grants* (*Housing*) *Act* 1971 *see* Year Book No. 59, page 210.

A further Housing Agreement was entered into between the Commonwealth and all States in 1973 in relation to Welfare housing. It was amended in some minor respects in 1974. *See* Year Book No. 63, page 410 for further details.

1978 Housing Agreement

This Agreement between the Commonwealth and the six States (excluding Northern Territory) is operative for a three year term ending 30 June 1981. Commonwealth advances to the States are repayable over 53 years at an interest rate of 4.5 per cent per annum for Home Purchase Assistance and 5 per cent per annum for Rental Housing Assistance. The allocation of advances to these two programs each financial year is determined by the Commonwealth Minister in consultation with each State Minister.

Home Purchase Assistance

In the third year of the Agreement at least 40 per cent of total advances made to a State is to be allocated to that State's Home Purchase Assistance Account (HPAA). Funds available in the HPAA are used principally to make loans to terminating building or co-operative housing societies and approved State lending authorities for on-lending to home purchasers. The interest rate charged by a State to societies and approved lending authorities must be not less than 5 per cent per annum in the first full financial year, increasing by 0.5 per cent per annum until a rate equivalent to 1 per cent below the long term bond rate is reached, and thereafter varying with movements in the long term bond rate. Eligibility conditions are set by the State ensuring that loans are only made to those who cannot obtain mortgage finance on the open market. Provision is made in the Agreement for a number of flexible lending practices, such as escalating interest loans with income geared starts, to be applied by a State subject to variation in repayment in the event of hardship.

Rental Housing Assistance

Funds are used principally for the provision of rental housing by State housing authorities but may be used for other purposes such as urban renewal, funding of voluntary housing management groups and allocations to local government bodies to provide rental housing. Each State determines eligibility for rental housing ensuring that assistance is directed to those most in need. The level of rent is also fixed by each State having regard to a policy of generally relating rents to those on the open market. Rental rebates are granted to those tenants who cannot afford to pay the rent fixed. Each State may determine its own policy on sales of rental dwellings but all sales must be at market value or replacement cost and on the basis of a cash transaction. Home Purchase Assistance funds may be used to finance the purchase of rental dwellings.

Housing Agreement (Servicemen)

Prior to 30 June 1971, housing for servicemen was provided under the terms of the 1956–1966 Housing Agreement which, in the main, was concerned with public housing and which expired on that date. With effect from 1 July 1971, a separate agreement was concluded between the Commonwealth and State Governments to provide for the construction of dwellings for allotment to servicemen and for improvements to existing accommodation occupied by them. Programmes are negotiated annually and the full capital cost is made available by the Commonwealth in repayable, interest-bearing advances to the States.

Operations under the 1973–1974 Housing Agreement, 1978 Housing Agreement and the Housing Agreement (Servicemen)

The following tables show the results of operations under the 1973–1974 Housing Agreement, 1978 Housing Agreement and the Housing Agreement (Servicemen) during 1977–1978 and 1978–1979. Corresponding figures for 1976–1977 appear in Year Book No. 63, page 411.

1973-74 HOUSING AGREEMENT: SUMMARY 1977-78

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
HOUSING FUNDS ($'000)							
Commonwealth advances to States for housing	128,011	101,759	39,810	58,460	36,740	25,220	390,000
State housing authorities(*a*)	89,608	71,231	30,400	34,810	25,718	20,000	271,767
Home builders' account(*a*)	38,403	30,528	9,410	23,650	11,022	5,220	118,233
Amounts drawn by institutions	60,403	47,767	12,344	28,782	16,548	6,601	172,445
Housing Agreement (Servicemen) advances	7,947	753	12,500	1,317	2	–	22,519
NUMBER OF DWELLINGS							
State housing program—							
Commenced	2,839	1,779	719	1,171	1,043	922	8,473
Completed	2,207	2,330	897	1,380	1,277	862	8,953
Under construction at 30 June 1978	3,142	1,906	324	991	298	499	7,160
Home builders' account—							
Purchased—							
New	507	281	154	2,205	32	39	3,218
Other	1,606	857	220	267	343	191	3,484
New construction—							
Approved	506	663	290	343	282	159	2,243
Commenced	399	946	289	362	282	132	2,410
Completed	491	1,019	329	411	710	202	3,162
Service housing—							
Agreed program	–	–	–	–	–	–	–
Completed(*b*)	55	61	290	67	–	–	473
Sold under—							
1973–74 Housing agreement	–	1,434	205	376	166	–	2,181
Earlier agreements	131	931	368	–	289	1	1,720

(*a*) Between 20 and 30 per cent of total advances to a State in a financial year must be allocated to Home Builders' Accounts, the balance being allocated to State Housing Authorities. (*b*) *See* footnote (*b*) on next page.

1978 HOUSING AGREEMENT: SUMMARY 1978-79

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
HOUSING FUNDS ($'000)							
Commonwealth advances to States for housing	103,721	82,451	32,257	47,368	29,767	20,436	316,000
Rental Housing Assistance Program	72,605	–	10,257	22,565	20,837	16,349	142,613
Home Purchase Assistance Account	31,116	82,451	22,000	24,803	8,930	4,087	173,387
Amounts drawn by institutions	62,000	n.y.a.	26,450	n.y.a.	n.y.a.	10,011	n.y.a.
Housing Agreement (Servicemen) advances	5,423	948	5,229	–	–	–	11,600

1978 HOUSING AGREEMENT: SUMMARY 1978-79—*continued*

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
NUMBER OF DWELLINGS							
Rental Housing Assistance Program—							
Commenced	2,140	1,240	490	1,155	763	850	6,638
Completed	2,920	1,835	604	1,857	745	810	8,771
Under construction at 30 June 1979	2,786	1,453	304	901	302	541	6,287
Home Purchase Assistance Account(*a*)—							
Purchased—							
New	907	571	583	2,157	25	6	4,249
Other	930	2,099	35	312	14	270	3,660
New construction—							
Approved	274	604	391	349	323	109	2,050
Commenced	367	888	377	n.y.a.	n.y.a.	n.y.a.	n.y.a.
Completed	377	886	288	n.y.a.	n.y.a.	n.y.a.	n.y.a.
Service housing—							
Agreed program	–	–	–	–	–	–	–
Completed(*b*)	205	10	164	1	–	–	380
Sales of Rental Dwellings	260	1,875	330	143	64	67	2,739

(*a*) Figures for S.A. do not include loans made through permanent building societies. (*b*) Includes completions of houses for servicemen programmed in previous years.

Rental Assistance to Pensioners Scheme

Year Book No. 61, page 229, gives information on the *States Grants* (*Dwellings for Aged Pensioners*) *Act* 1969 and the *States Grants* (*Dwellings for Pensioners*) *Act* 1974. The latter was extended a further financial year to 30 June 1978 and a further $10 million was allocated. From 1 July 1978 grants are being provided to the States for 3 years to 30 June 1981 under Part III of the *Housing Assistance Act* 1978. The scheme now allows the States to provide rental housing assistance for other persons in need as well as pensioners defined in the Act. Grants may be used for purposes other than construction of housing, eg, leasing from the private sector.

Units provided in 1976–77 and 1977–78 and 1978–79 are shown in the following table.

RENTAL ASSISTANCE TO PENSIONERS

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
Number of units—								
1976–77		138	–	55	57	66	9	325
1977–78		195	137	78	58	46	14	528
1978–79(*a*)		309	168	103	81	77	26	764
Grants Paid—								
1976–77	$'000	2,084	–	944	907	895	158	4,986
1977–78	$'000	4,070	2,530	1,490	930	700	280	10,000
1978–79	$'000	5,695	3,388	2,050	1,343	1,086	438	14,000

(*a*) From 1978–79 States only need to nominate schemes

Defence service homes

The *Defence Service Homes Act* 1918, formerly the *War Service Homes Act* 1918, makes provision for assistance to be granted to persons who satisfy the eligibility conditions set out in the Act to enable them to acquire on concessional terms a soundly constructed home that they would occupy as a residence.

Persons eligible for assistance under the Act include members of the Australian forces and nursing services enlisted or appointed for or employed on active service outside Australia or on a ship of war during the 1914–18 and 1939–45 Wars; persons who served in the warlike operations in Korea or Malaya or who have served on 'special service' as defined in the *Repatriation* (*Special Overseas Service*) *Act* 1962; and members of the Forces who serve on continuous full-time service and national servicemen whose periods of service ended not earlier than 7 December 1972 and who meet certain prescribed conditions. The categories of eligible persons also include the widows and, in some circumstances, the widowed mothers of eligible persons, and persons domiciled in Australia and employed in certain sea-going service during the 1914–18 and 1939–45 Wars.

The maximum amount of loan or advance which may be granted under the *Defence Service Homes Act* 1918 is $15,000. The maximum period of repayment is 45 years or, in the case of the widow or widowed mother of an Australian ex-serviceman, 50 years; but normally the repayment period is restricted to not more than 32 years.

The Defence Service Homes Corporation is, subject to the directions of the Minister for Veterans' Affairs, responsible for the administration of the Defence Service Homes Act.

Operations under the Defence Service Homes Act

The following tables give details of the operations under the Defence Service Homes Act in the year 1978–79 and from the inception of the scheme on 6 March 1919 to 30 June 1979. The earliest single year for which details are given in the tables is 1973–74; for earlier years *see* previous issues of the Year Book. The figures shown include operations in Papua New Guinea and on Norfolk Island.

DEFENCE SERVICE HOMES ACT: OPERATIONS, 1978-79 AND TO 30 JUNE 1979

		1978–79			
		Eligibility established from following service—			
		1914–18 War	*1939–45 War Korea, etc. (a)*	*Regulars and National Servicemen serving on or after 7 December 1972*	*Total*
Applications received	No.	55	4,975	1,949	6,979
Applications approved	"	44	3,520	1,353	4,917
Homes purchased	"	41	2,334	828	3,203
Homes built, or assistance given to build them	"	2	390	250	642
Mortgages discharged	"	7	1,138	352	1,497
Total homes provided	"	*50*	*3,862*	*1,430*	*5,342*
Transfers and resales	"	–	73	10	83
Total capital expenditure	$'000	n.a.	n.a.	n.a.	77,434
Total capital receipts	"	n.a.	n.a.	n.a.	(*b*)82,521

		From inception to 30 June 1979			
		Eligibility established from following service—			
		1914–18 War	*1939–45 War Korea, etc.(a)*	*Regulars and National Servicemen serving on or after 7 December 1972*	*Total*
Applications received	No.	120,059	502,645	16,571	639,275
Applications approved	"	59,187	308,620	9,223	377,030
Homes purchased	"	20,976	167,700	5,297	193,973
Homes built, or assistance given to build them	"	24,234	77,390	1,721	103,345
Mortgages discharged	"	4,406	45,403	1,629	51,438
Total homes provided	"	*49,616*	*290,493*	*8,647*	*348,756*
Transfer and resales	"	9,695	17,437	250	27,382
Total capital expenditure	$'000	n.a.	n.a.	n.a.	2,178,357
Total capital receipts	"	n.a.	n.a.	n.a.	(*c*)1,824,622

(*a*) Korea, Singapore, Malaysia or Vietnam (Southern Zone) and Vietnamese waters. (*b*) Total capital receipts for the year, not including interest received from applicants. (*c*) Includes interest receipts.

DEFENCE SERVICE HOMES ACT: OPERATIONS

	Number of						
		Homes provided					
Year	*Applications received*	*Homes purchased (a)*	*Homes built*	*Mortgages discharged*	*Total*	*Total capital expenditure*	*Total capital receipts(b)*
						$'000	$'000
1973–74 . . .	15,494	6,223	715	1,356	8,294	102,000	(b)101,467
1974–75 . . .	14,582	5,840	1,244	1,780	8,864	130,000	(b)91,640
1975–76 . . .	11,646	5,009	1,472	1,797	8,278	128,194	(b)110,720
1976–77 . . .	10,059	2,860	1,357	1,573	5,790	94,657	(b)124,424
1977–78 . . .	8,058	3,365	1,149	1,382	5,896	90,321	(c)90,012
1978–79 . . .	6,979	3,203	642	1,397	5,242	77,434	(c)82,521

(a) Homes purchased with assistance under the Defence Service Homes Act. (b) Includes interest receipts. (c) Total capital receipts for the year, not including interest received from applicants.

DEFENCE SERVICE HOMES ACT: ADVANCES FOR HOUSING AND NUMBER OF HOMES PROVIDED

Period or date	*N.S.W.(a)*	*Vic.*	*Qld(b)*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Total*
TOTAL CAPITAL ADVANCED DURING YEAR ($'000)									
1973–74 . . .	30,171	27,149	17,400	10,418	9,500	3,200	162	4,000	102,000
1974–75 . . .	37,925	32,250	22,785	11,867	16,400	3,220	133	5,420	130,000
1975–76 . . .	40,954	31,971	20,254	10,490	16,005	2,795	(c)	5,725	128,194
1976–77 . . .	31,109	21,607	14,635	9,120	11,798	1,788	(c)	4,600	94,657
1977–78 . . .	24,948	22,417	15,700	9,769	11,049	1,807	(c)	4,631	90,321
1978–79 . . .	23,843	14,979	15,438	7,992	7,836	1,467	(c)	5,879	77,434
NUMBER OF SECURITIES IN FORCE									
At end of June—									
1974 . . .	62,699	54,379	25,527	16,603	17,576	4,397	73	1,671	182,925
1975 . . .	63,035	54,363	26,181	16,879	18,095	4,484	67	2,022	185,126
1976 . . .	62,535	53,109	26,367	16,736	18,072	4,483	33	2,355	183,690
1977 . . .	61,367	52,316	26,197	16,504	17,855	4,380	38	2,575	181,232
1978 . . .	60,033	51,004	26,129	16,381	17,628	4,305	46	2,804	178,330
1979 . . .	58,090	49,458	25,888	16,062	17,208	4,157	54	3,089	174,006
VALUE OF ADVANCES OUTSTANDING ($'000)									
At end of June—									
1974 . . .	363,071	288,556	135,961	84,624	90,336	23,997	(c)	(d)	986,545
1975 . . .	382,562	302,077	150,560	91,341	101,351	25,901	(c)	(d)	1,053,792
1976 . . .	402,045	313,014	162,454	95,314	109,329	27,117	(c)	(d)	1,109,273
1977 . . .	408,911	314,001	168,289	97,822	113,757	27,113	(c)	(d)	1,129,893
1978 . . .	412,695	316,039	174,941	100,516	117,941	27,229	(c)	(d)	1,149,361
1979 . . .	405,141	303,226	175,887	100,377	115,515	26,111	(c)	(d)	1,126,257
NUMBER OF HOMES PROVIDED									
1973–74 . . .	2,449	2,245	1,434	757	783	280	14	332	8,294
1974–75 . . .	2,402	2,172	1,544	836	1,245	251	10	404	8,864
1975–76 . . .	2,437	2,098	1,379	704	1,059	204	7	390	8,278
1976–77 . . .	1,724	1,359	967	555	740	122	9	314	5,790
1977–78 . . .	1,697	1,425	1,059	555	726	127	7	300	5,896
1978–79 . . .	1,609	998	1,054	542	531	102	11	395	5,242

(a) Includes Norfolk Island. (b) Includes Papua New Guinea. (c) Included in South Australia. (d) Included in New South Wales.

In addition to the homes provided under the Defence Service Homes Act and shown above, 3,682 homes, which had been provided originally under the Housing Agreements with the States, have been taken over in accordance with those Agreements.

Home Savings Grant Scheme

The administration of the Home Savings Grant Scheme is a function of the Department of Housing and Construction. The purpose of the scheme is to encourage people to save over a period towards the ownership of their first home and to assist them financially with its acquisition by means of a home savings grant. A further objective is to increase the funds available in Australia for housing purposes by rewarding savings made with those institutions that provide the bulk of private housing finance. The grant is a tax-free gift, not a loan.

The Scheme was introduced in 1964. Persons who acquired their home on or before 31 December 1976 qualified under the *Homes Savings Grant Act* 1964, the conditions of which are explained in detail in Year Book No. 61, page 233. Details of grants made under this Act up to 30 June 1978 are available in Year Book No. 63, pages 415–6.

Persons acquiring their homes on and after 1 January 1977 may qualify under the *Homes Savings Grant Act* 1976. Applications for grants may be made by persons who, on and after 1 January 1977, contract to buy or build, or commence to construct, their first home in Australia. Applicants may be young or old, married or single. The home must be intended as the applicant's principal place of residence. Persons who are not Australian citizens must have the right to reside here permanently. Persons under eighteen years of age must be married or engaged. Applicants cannot have owned a home or received a grant before.

The amount of grant is related to the 'savings period', which is the period of one, two or three complete years immediately before the contract date, during which the applicant/s must have saved in an acceptable form. The grant is calculated on the basis of $1 for each $3 of acceptable savings, including savings held at the beginning of the savings period. A maximum grant of $667 is payable in respect of a savings period of one year, $1,333 for two years and $2,000 for three years. Grants of $667 first became payable for people contracting to buy or build their home from 1 January 1977. The larger grants apply first from 1 January 1978 and 1979 respectively.

There is no limit to the value of homes acquired on or before 24 May 1979. The Government announced on 24 May 1979 that a value limit will apply to homes acquired after that date. A full grant will be payable for homes valued at $35,000 or less, reducing to zero grant for homes valued at $40,000. The value limit will apply to the combined value of land, dwelling and other improvements.

The main forms of savings that are acceptable are those most commonly used to accumulate savings for a home, that is, with banks (other than cheque accounts), building societies and credit unions. Savings expended on or before the contract date in connection with the home, such as for the deposit on the home or for the land, are also acceptable.

Full details of the new scheme are available in a booklet, 'Your Home Savings Grant', copies of which are available from the Department of Housing and Construction and from savings institutions. Further information on the operation of the scheme is contained in the Department's Annual Report.

Operations under the Home Savings Grant Scheme

Particulars of applications received and approved during 1978–79 and from inception in respect of the *Homes Savings Grant Act* 1976, are set out below.

HOMES SAVINGS GRANT ACT 1976: OPERATIONS, 1978–79

		N.S.W.	*Vic.*	*Qld*	*S.A.(a)*	*W.A.*	*Tas.*	*A.C.T.(b)*	*Aust.*
Applications received .	No.	20,624	16,172	7,027	5,480	4,787	1,844	1,244	57,178
Applications approved .	„	18,692	13,790	6,624	5,050	4,684	1,587	1,199	51,626
Grants approved . . .	$'000	19,467	15,562	7,317	5,325	4,780	1,751	1,313	55,514
Averge grant approved .	$	1,041	1,128	1,105	1,054	1,020	1,103	1,095	1,075
Expenditure from Consolidated Revene . .	$'000	7,931	5,629	2,100	1,900	1,520	540	380	20,000

(*a*) Includes Northern Territory. (*b*) Includes Queanbeyan, N.S.W.

HOMES SAVINGS GRANT ACT 1976: OPERATIONS, 1 JANUARY 1977 TO 30 JUNE 1979

Period	*Applications received*	*Applications approved*	*Grants approved*	*Average grant approved*	*Expenditure from consolidated revenue*
			$'000	$	$'000
1 January 1977–30 June 1977	11,850	8,447	5,491	650	5,035
1977–78	58,433	49,790	36,131	726	33,995
1978–79	57,178	51,626	55,514	1,075	20,000
Total from 1 January 1977	**127,461**	**109,863**	**97,136**	**884**	**59,029**

Housing loan interest deduction scheme

The housing loan interest deduction scheme provides for the allowance of an income tax deduction for eligible housing loan interest payments. To qualify, interest paid after 30 June 1976 must relate to the first home of the taxpayer (or of his or her spouse) and be paid during the first five years of occupancy of that first home.

The amount of the housing loan interest deduction that may be an allowable deduction is governed by a 'net income' test under which all eligible interest paid in the relevant income year is deductible if the taxpayer concerned has a net income for that year of $4,000 or less. For a taxpayer with a higher net income, the percentage of interest deductible is 100 per cent reduced by 1 per cent for each $100 by which his or her net income for the year exceeds $4,000. The deduction is therefore not available to a person whose net income is $14,000 or more.

'Net income' for purposes of the scheme means gross income (including exempt income but not family allowances or domiciliary nursing care benefits) less expenses of a revenue nature incurred in the course of earning the income. In measuring the deduction allowable, the net income of the taxpayer is combined with the net income of his or her spouse.

The deduction will be terminated with effect from 1 November 1978. No reduction on account of housing loan interest paid by an employee may therefore be made in the level of tax instalments deductible under the pay-as-you-earn (PAYE) system from salary or wages paid after 31 October 1978.

Housing loans insurance scheme

The Housing Loans Insurance Corporation was established under the *Housing Loans Insurance Act* 1965 to insure approved lenders against losses arising from the making of housing loans. For further information regarding the Corporation and earlier operation of the Scheme, *see* Year Book No. 61, pages 235–6.

Following amendments to the Act in mid-1977, loans for owner-occupancy homes are insurable without limit on loan amount, interest rate or term. A once-and-for-all premium of 1.4 per cent of the amount of the loan is charged by the Corporation for the insurance of loans up to, but less than, 96 per cent of valuation, with the premium rate falling progressively to a minimum of 0.1 per cent on loans of less than 76 per cent of valuation. On loans from 96 to 100 per cent of valuation, the premium charged is 1.4 per cent of the valuation of the loan plus 10 per cent of the amount so calculated. The amendments to the Act also empowered the Corporation to insure loans for rental housing projects and loans to developers and builders.

From November 1965, when the Corporation commenced operations, until the end of June 1978, 324,000 loans to the value of $5,254 million had been insured.

State housing authorities

The following paragraphs describe briefly the organisation of the various State housing authorities and their activities in the fields of home construction and provision of homes on a rental basis (*see* pages 492–6, for their financial advances to persons wishing to purchase or build a home). For summarised figures of total government construction of houses and other dwellings, *see* pages 496 and 498.

New South Wales—The Housing Commission of New South Wales. The Housing Commission of New South Wales was constituted in 1942, its principal function being the provision of low-cost housing to persons in the lower or moderate income groups.

Advances from the Commonwealth Government have provided most of the Housing Commission's capital funds and by 30 June 1979 had aggregated $1,132,232,000 of which $117,220,000 had been repaid. Other net funds of the Commission at 30 June 1979 comprised: repayable advances from the State, $124,435,000; public loans raised by the Commission, $18,881,000; grants from the Commonwealth Government, $41,871,000; grants from the State, $27,790,000 (including $9,590,000 from consolidated revenue and $18,200,000 from taxes on poker machines); provision for maintenance of properties, $9,226,000; and accumulated surplus, $125,126,000. In addition, the Commission owed $19,068,000 to creditors, mainly for purchase of land and work-in-progress. These funds were represented by fixed assets, $1,356,864,000 (including $204,153,000 debtors for purchase of homes); and current assets, $25,230,000. In 1978–79, the Commission's income was $137,644,000 (including rent $114,404,000 and interest $17,440,000); expenditure was $123,411,000 (interest, $48,306,000).

Most of the permanent dwellings provided by the Commission have been erected under the Federal-State Housing Agreements. In 1978–79, 3,265 houses and flats were completed for the Housing Commission by private builders on contract to the Commission.

Upon request by other State Departments, the Housing Commission will erect houses for employees of those Departments, the Departments providing the necessary lands and funds. In addition, the Commission erects (with State funds) dwellings for employees of industries connected with decentralisation and development. Specially-designed units are erected by the Housing Commission to provide dwellings for elderly persons at rentals within their means. The rents of these units, as at 30 June 1979, were approximately $11.40 a week for elderly single persons and $18.30 a week for elderly couples. At 30 June 1979, 10,075 units had been completed.

Victoria—Ministry of Housing. The Ministry of Housing co-ordinates all Government housing activities in Victoria. The authorities within the Ministry are the Housing Commission, Registry of Co-operative Housing Societies and Co-operative Societies, Home Finance Trust (*see* page 493), Decentralised Industry Housing Authority and Teacher Housing Authority.

Housing Commission, Victoria. The Commission was set up in 1938 as a result of the Housing Act of the previous year. Following an amendment to the Housing Act in January 1979, the function of the Commission is defined as assisting the Minister to carry out his duties, which include the determination of the present and future housing needs of the people of Victoria and the taking of steps in relation to: the provision of accommodation for persons in need; the provision of adequate and suitable houses for letting or leasing; the sale of houses to eligible persons; the making of advances to eligible persons for home purchase; the improvement of existing housing by the establishment and enforcement of adequate housing standards; encouraging and assisting in the provision of finance for persons building, purchasing or renovating houses; the development and sale of land for housing; the preparation and implementation of urban renewal proposals; the provision of parks, gardens and community facilities in areas where land or houses have been provided; the provision of shops and commercial facilities or land therefor; the provision of movable units for the accommodation of the pensioner parents of an applicant on the land of the applicant; the provision of housing for officers and employees of government departments and public authorities in circumstances where this is desirable; and the integration of housing under the Act with private housing.

Since the signing of the 1945 Housing Agreement, the construction of dwellings has been financed by the Commonwealth Government and Commission Funds.

At 30 June 1979, the Housing Commission had completed 88,695 dwelling units under the State Housing Scheme and Federal-State Agreements, Works and Services Loans, Service Personnel Agreements (Housing), and Grants for Aged Person Housing. Specially-designed dwelling units are erected by the Commission to provide dwellings for elderly persons at rentals within their means. To 30 June 1979, 7,608 such units had been completed. These are also included in the figures for total constructions above.

Queensland—The Queensland Housing Commission. The Queensland Housing Commission was established in 1945 to assist in meeting the housing shortage. In addition, the Commission was empowered to build houses itself, either for sale or for rental.

During 1978–79 the Commission provided 1,875 dwelling units, bringing the total number under all schemes since the revival of housing construction in 1944–45 to 57,909. Of this number 35,138 houses, or 61 per cent, were for home ownership, and 22,730, or 39 per cent, were for rental.

In the field of rental housing the Commission administers and acts as the constructing authority under the Federal-State Housing Agreements and the States Grants (Dwellings for Pensioners) and States Grants (Housing) legislation. Operating under the provisions of the *State Housing Act* 1945–1978, the Commission, through its scheme of worker's dwellings, makes advances for the construction of dwellings to eligible persons who own a suitable building site. The number of workers' dwellings completed during 1978–79 amounted to 879, making a total of 34,568 completions since the inception of the scheme. The Commission also has power to make advances, secured by mortgage, to firms for housing of employees. The Commission has power to sell houses under contract of sale conditions. Contract of sale agreements were made to purchase 403 of the Commission's houses during 1978–79.

South Australia—The South Australian Housing Trust. The South Australian Housing Trust operates under the South Australian Housing Trust Act, 1936–1978 and the Housing Improvement Act, 1940–1978 for the purpose of providing accommodation for families of limited means. Dwellings are built for both rental and sale, and to 30 June 1979, a total of 87,258 had been completed or purchased by the Trust throughout the State, of which 46,210 had been built and sold under various schemes.

At 30 June 1979, the rents of 5 roomed (i.e. 3 bedroomed) semi-detached bungalows ranged from $23.50 per week for houses of the older type, to $25.00 per week for newer type houses. Single unit rents ranged between $29.00 and $38.00 per week. Two bedroomed villa flats were let at $30.00 per week whilst weekly rentals on two and three storey groups of flats in the Adelaide metropolitan area ranged from $26.50 for one bedroom flats to $28.50 for two bedroomed flats. Of these, 2,320 flats were situated in the metropolitan area and 203 in country towns. With few exceptions, rentals for attached, one and two storey maisonettes and town houses (three bedrooms) at 30th June 1979 ranged between $32.50 and $39.00 per week.

The exceptions are town houses at West Lakes, Hackney, Kent Town and in the City of Adelaide where rents range from $45.50 for two bedrooms to $79.00 for three bedrooms and a family room.

In 1953 the Trust began building cottage flats for pensioners and elderly people. By 30 June 1979, the Trust had let 2,117 cottage flats and built an additional 865 for charitable and non profit organisations. The rents for persons receiving pensions were $7.50 per week for a one person cottage flat ($6.50 for a shared facility cottage flat) and $12.50 for a two person cottage flat.

The Trust Rental Purchase Scheme introduced in 1962 had the aim of providing less expensive purchase housing for lower income families. As anticipated, houses purchased under this scheme to some extent eased the demand for Trust rental accommodation. Low deposits and a forty year, low interest loan, (financed under Commonwealth-State housing agreements), enabled a total of 8,144 low income families to purchase a new three bedroom, brick-veneer house between 1962 and 1978. Unfortunately this extremely popular scheme has been discontinued due to changes in funding made by the Commonwealth Housing Assistance Act, 1978. At 30 June 1979, there were 5,263 Rental Purchase accounts still in existence.

The Trust has a House Sales scheme, which, in conjunction with the State Government Insurance Commission (SGIC), provides home purchase facilities aimed to be of particular assistance to the lower and middle income groups in the community. Currently these houses are priced between $32,000 and $40,000 (depending on location and design), most are priced below $35,000 and, therefore, qualify for the full Commonwealth Home Savings Grant. The present Trust House Sales scheme partially fills the vacuum left in the wake of the now defunct Rental Purchase scheme. All construction is by private contractors.

The Trust undertook the construction of houses for various Commonwealth and State Government Departments which needed to house staff in the State. Houses are also built to a standard Trust design on the client's own land in the country if they so wish; either for their own use or that of their employees. For this purpose either local materials are utilised, or complete *House Kits* containing everything necessary to build a house including nails, paint and fencing or pre-fabricated dwellings are transported to the site for erection by *labour only* contractors. The farthermost point at which the Trust has built is Amata, some 1,600 kilometres from Adelaide.

There has been a considerable increase in the number of houses provided for disadvantaged and handicapped people, and many of the houses provided were extensively altered to meet the needs of the individual. These alterations have enabled many handicapped people to live a full and independent life.

The Trust is also responsible for the administration of all houses financed through the State Aboriginal Advancement Scheme, in accordance with policies formulated by the Aboriginal Housing Board of South Australia. The Board comprises six Aboriginal Members and a representative each from the Department of Community Welfare, the Department of Aboriginal Affairs, Aboriginal Hostels Limited and the Trust. So successful has the relationship between the Board and the Trust been, that the Board will in future conduct its business from the premises of the Trust Head Office in Adelaide.

The Trust employs a number of Aborigines in its Aboriginal Funded Unit and provides all the normal housing management services for the houses under the scheme. By the end of June 1979, a total of 745 homes had been built or purchased in South Australia exclusively for people of Aboriginal descent. The scheme whereby Aboriginal apprentices were indentured to a Ceduna Trust contractor has proved successful. When they complete their training it is intended the Trust and the Board will employ them on the maintenance of Aboriginal Funded houses.

Since 1973, the Trust has purchased 1,302 old houses and cottages (mainly in the City and inner suburbs) under its Special Rental Scheme. After upgrading, these homes have been let to needy people, requiring accommodation in close proximity to essential welfare and social support. This scheme has not only greatly assisted the disadvantaged people in the community, but has also contributed significantly toward urban renewal.

Western Australia—State Housing Commission of Western Australia. The activities of the State Housing Commission extend throughout the whole State. In addition to construction of a variety of dwellings for its own rental and purchase program as determined under the State Housing Act, the Federal State Housing Agreements prior to 30 June 1971, the *States Grants (Housing) Act* 1978 and the 1978 Housing Agreement, its activities include: construction of houses for other Government Departments (both Commonwealth and State Government, and semi-and local government authorities) in Western Australia; and construction and maintenance of houses for the Government Employees' Housing Authority.

At 30 June 1979, the Commission had completed under all schemes since 30 June 1944 a total of 66,625 units of accommodation throughout the State (including 12,046 units completed under the *Defence Services Homes Act* 1918).

During the twelve months ended 30 June 1979, 1,001 units of accommodation were completed: metropolitan area, 458; country, 242; and north of the 26th parallel, 301. A further 549 units were under construction.

Building Societies are a major source of housing finance in Western Australia. At 30 June 1979, it was estimated that the assets of all societies were about $1,646 million. Currently, 10 permanent and 556 terminating societies are operating. Under the Housing Agreement with the Commonwealth the State is required by 1 July 1980 to allocate not less than 40 per cent of the funds the State receives under the Agreement to the Home Purchase Assistance Account. Advances are made for the account to terminating building societies which in turn make loans available to eligible applicants being those persons unable to obtain mortgage finance assistance in the open market or from other sources.

Under the *Housing Loans Guarantee Act,* 1957–1972, the guarantees provided to financial institutions enable loans to be made to lending institutions with full security. The Act enables building societies and other approved bodies to make high ratio advances to families of low and moderate means without additional charge. The interest rate charged to the borrower may not exceed 10.25 per cent reducible. Loans may be made for up to 90 per cent of the value of the house and land. The maximum loan permitted in respect of the metropolitan region south of the 26th parallel is $30,600. For a new house situated north of the 26th parallel and in the North West or Eastern Land Divisions, the maximum loan is $48,600 and in the Kimberley Land Division $50,400.

Tasmania—Department of Housing and Construction (*Housing Division*). The Department of Housing and Construction, established in September 1977, is comprised of the Housing and Construction Divisions. The Housing Division is continuing the functions of the former Housing Department which was established in 1953 for the purpose of administering that portion of the *Homes Act* 1935 relating to the acquisition and development of land for housing purposes and the erection of homes for rental and sale to those deemed in need of assistance, and the *Casual Worker's and Unemployed Persons' Homes Act* 1936.

During 1978–79 dwelling completions numbered 810. Construction since 1944 totalled 18,522. At 30 June 1979, they comprised 16,585 detached and semi-detached units (9,884 of timber), 1,028 elderly persons' flatettes, 316 multi-unit flats, 565 villa units and 28 moveable units.

The Division now allots all welfare housing accommodation on a rental basis. Weekly rental of a new typical standard home was about $46.00 at 30 June 1978 and $40.00 at 30 June 1979. In certain necessitous cases, rental rebates are allowed. Under current policy a married couple occupying an elderly persons' unit and whose only income is the age pension pay $16.00 a week, while a single person solely dependent on the pension pays $10.00 a week.

Housing schemes in Australian Territories

Northern Territory. In 1946 control of all government-owned residences in the Territory (excluding those belonging to the Defence Services or Commonwealth Railways or attached to post offices) was vested in the Administration. The Northern Territory Housing Commission was established in 1959 and operates under authority of the *Housing Act* 1979. The Commission became autonomous on 1 October 1969 and, in addition to its role of providing residential accommodation to persons of limited means, its functions were broadened as from 1 July 1978 to include the provision of housing for employees of the Northern Territory Government and related authorities and the provision of residential, office, industrial or other accommodation for the Commonwealth and the Territory for public purposes.

Australian Capital Territory. The Commonwealth Government provides houses and flats for rental to persons on low incomes who live or are employed in the Australian Capital Territory. At 30 June 1979 the Department of the Capital Territory controlled 7,688 houses and 3,253 flats for rental purposes. Government rental houses may be purchased by tenants.

Summary of rental activities of government authorities

The first of the following two tables shows the revenue from rental for dwellings under control of government housing authorities each year from 1973–74 to 1978–79, and the second shows the number of tenants paying rent for dwellings under control of government housing authorities at the end of each year 1973–74 to 1978–79.

GOVERNMENT HOUSING AUTHORITIES: REVENUE FROM RENTALS
($'000)

Year	*N.S.W.*	*Vic.(a)*	*Qld(b)*	*S.A.(c)*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1973–74	42,378	26,820	12,104	18,730	12,791	3,404	2,313	5,555	124,095
1974–75	49,401	31,596	13,959	22,271	15,810	4,281	1,739	7,479	146,536
1975–76	63,870	42,031	19,326	28,930	17,040	5,569	2,486	10,839	190,091
1976–77	84,242	49,714	26,766	35,913	19,586	7,368	3,281	15,626	242,496
1977–78	99,566	53,753	32,069	42,331	24,337	9,855	8,690	20,538	291,139
1978–79	114,404	64,556	39,382	42,785	26,829	12,722	4,467	20,658	325,803

(*a*) Figures relate to Housing Commission only. (*b*) Excludes rentals in respect of tenanted temporary dwellings. (*c*) Excludes rentals in respect of temporary and emergency dwellings to 30 June 1977, by which date all had been removed.

GOVERNMENT HOUSING AUTHORITIES: NUMBER OF TENANTS PAYING RENT

Year	*N.S.W.*	*Vic.(a)*	*Qld(b)*	*S.A.(c)*	*W.A.*	*Tas.(d)*	*N.T.*	*A.C.T.(d)*	*Aust.*
1973–74	70,510	39,996	18,183	35,592	24,304	4,841	2,517	9,506	205,449
1974–75	73,021	40,726	18,947	36,752	25,767	5,350	2,012	10,481	213,056
1975–76	78,325	40,057	20,508	37,847	24,791	6,150	3,109	11,152	221,939
1976–77	80,510	40,053	20,772	39,013	24,818	6,695	3,428	10,967	226,256
1977–78	82,893	40,151	21,863	40,129	24,323	7,489	3,665	10,575	231,088
1978–79	85,997	40,049	22,730	41,048	25,011	8,238	3,386	10,550	237,009

(*a*) Figures relate to Housing Commission only. (*b*) Excludes tenanted temporary dwellings. (*c*) Excludes temporary and emergency dwellings (all removed by 30 June 1977). (*d*) Number of occupied dwellings at 30 June.

Advances to home purchasers

Many prospective home purchasers wish to borrow for the purpose of constructing or purchasing their own homes. Usually the loan is covered by way of mortgage of the home to be constructed or bought. Such loans are provided from a number of private sources and from agencies owned or guaranteed by the Commonwealth or State Governments. The information in this section concerns the direct loans made to home purchasers by the more important institutional lenders. Loans to institutions which in turn lend moneys to home purchasers and loans to contract builders, etc. are excluded as far as possible. The loans may be for the construction of new dwellings, the purchase of existing dwellings, for additions, renovations, etc., as first or subsequent mortgages, overdrafts and so on. While figures of all loans to home purchasers are not available, the institutions mentioned account for a significant proportion of total loans. Details of the terms and conditions of lending are given, together with available information on the number and value of loans made.

State and Territory authorities and agencies

New South Wales: Rural Bank of New South Wales—Sale of Homes Agency. A Sale of Homes Agency was established in 1954 to arrange for the sale on terms of houses erected by the Housing Commission of New South Wales. Since 30 November 1976, the sale of these homes on a terms basis has not been permitted, although the Agency still acts as agent for the Commission in collecting instalments payable by purchasers of homes sold prior to that date. The Agency's operations began with the sale to selected purchasers of 100 houses made available by the Commission during

1954–55 and 1955–56. The sales were made on the basis of 10 per cent deposit and repayment of the balance over a maximum period of forty years, with interest at 4.5 per cent per annum. Total advances under that scheme amounted to $646,648; at 30 June 1979 the advances outstanding amounted to $122,181 in respect of 36 houses.

Between 1 July 1956 and 30 November 1976, the Sale of Homes Agency acted as the agent of the Housing Commission in arranging the sale on terms of houses erected under the Federal-State Housing Agreements. The terms of sale provided for a minimum deposit of $200 and repayment of the balance over a maximum period of forty-five years, with interest rates since the inception of the scheme ranging from 4.25 to 6.75 per cent per annum. Particulars of the advances made by the Agency in connection with the sale of houses erected under the 1956, 1961, 1966 and 1973 Agreements and the *States Grants (Housing) Act* 1971 are given in the following table.

RURAL BANK OF NEW SOUTH WALES—SALE OF HOMES AGENCY ADVANCES FOR HOMES SOLD UNDER THE 1956, 1961, 1966 AND 1973 FEDERAL-STATE HOUSING AGREEMENTS AND THE STATES GRANTS (HOUSING) ACT OF 1971

	Advances during year		*Total advances to end of year*		*Advances outstanding at end of year(a)*	
Year	*Number of houses*	*Amount*	*Number of houses*	*Amount*	*Number of houses*	*Amount*
		$'000		$'000		$'000
1973–74	76	1,158	28,895	240,313	21,550	167,995
1974–75	79	1,514	28,974	241,827	20,779	160,422
1975–76	180	4,402	29,154	246,229	19,939	154,635
1976–77	22	573	29,176	246,802	18,905	144,899
1977–78	—	—	29,176	246,802	17,818	134,529
1978–79	—	—	29,176	246,802	16,802	125,126

(*a*) Comprises principal outstanding and loan charges due but not paid.

Prior to 30 November 1976 the Sale of Homes Agency also acted as agent for the Housing Commission in arranging the sale of houses erected by the Commission on applicants' land. Under this scheme persons who had established a housing need could apply to the Commission to have a standard-type dwelling erected on their own land. The houses were sold, at a price equivalent to their capital cost, on the same terms as for houses erected under the 1956 to 1973 Housing Agreements and the *States Grants (Housing) Act* 1971. Up to 30 June 1979, 768 houses had been built at a cost of $8,197,000, the balance of indebtness at that date was $4,171,000.

Rural Bank of New South Wales—Other loans. The Rural Bank of New South Wales provides assistance to individuals for the erection or purchase of homes and for other approved purposes associated with homes. Advances are based on the bank's official valuation of the dwelling. The current rate of interest on new long-term loans for housing purposes is 9.25 per cent per annum.

Victoria: Housing Commission of Victoria. Commission policy is to encourage home ownership; of the 88,695 (1978, 86,861) dwelling units built up to 30 June 1979 under the State Housing Scheme, the Federal-State Agreements and Housing Grant, a total of 48,386 (1978, 46,658) houses have been sold (27,849 (1978, 27,028) in the metropolitan area and 20,537 (1978, 19,630) in the country).

Home Finance Trust. The Home Finance Trust is a corporate body constituted under the *Home Finance Act* 1962. It is authorised to receive money on deposit, the repayment of which is guaranteed by the Government of Victoria, for the purpose of making loans for housing on the security of first and second mortgages. Under the terms of the Act the Trust is precluded from making loans in certain circumstances.

The number of loans granted by the Trust to 30 June 1979 and subsisting totalled 2,615 (1978, 2,806) on the security of first mortgages and 2,710 (1978, 1,954) on second mortgages, the amounts involved being $24.9 (1978, $26.4) million and $12.9 (1978, $9.0) million, respectively.

(*See* Savings Banks, page 243 of Year Book No. 61, for activities of the State Savings Bank of Victoria.)

Queensland: Queensland Housing Commission. The major housing scheme financed solely by the State Government is the Workers Dwelling Scheme. Under the *State Housing Act* 1945–79, an eligible person who is the owner of a suitable building site may obtain an advance, secured by mortgage on the land, from the Housing Commission for the erection of a worker's dwelling. The Housing Commission also provides finance for the purchase of homes constructed by the Commission to the applicant's design on Commission land under contract of sale. At 30 June 1979, the maximum advance under both schemes was $25,000 with interest chargeable at 7½ per cent, and repayments over periods up to 45 years.

South Australia: South Australian Housing Trust Sales Schemes. Prospective purchasers of Housing Trust houses may purchase either by paying cash or by paying a deposit and arranging for a loan on security of a first mortgage from any of the recognised lending authorities. In cases where the deposit and the first mortgage so raised are insufficient, the Trust may advance the balance of the house price on security of a second mortgage, the term of which is usually coterminous, but not exceeding 30 years. The interest rate was 11 per cent at 30 June 1979, and the interest is adjusted quarterly. At 30 June 1979 there were 5,690 second mortgages outstanding.

At 30 June 1979 there were 5,690 second mortgages outstanding. A minimum deposit of $500 was required under the rental-purchase scheme from 1 January 1977 and at 30 June 1978 there were 5,441 advances outstanding under the scheme. The balance of the purchase price is repayable to the Trust in weekly instalments over periods up to 40 years at 5.5 per cent interest per annum.

State Bank of South Australia. The State Bank and the Housing Trust are the principal agents of the State Government for the distribution of moneys received under housing assistance arrangements with the Commonwealth Government. During 1978–79, 2,447 individual loans were made for a total outlay of $49,714,559 in the Home Builders' Account. The balance of loans outstanding on this account at 30 June 1979 totalled $302,936,196. The *Advances for Homes Act,* 1928–1972 which was administered by the Bank on behalf of the State Government, was repealed during the year and the outstanding assets were absorbed into the Bank's housing funds. The balance outstanding under the repealed Act at 30 June 1979 was $7,845,981. During the year the Bank commenced lending second mortgage finance using funds obtained from sources other than the Commonwealth Government. Under the Second Mortgage Scheme 914 loans were made for a total outlay of $5,101,418. The balance of loans outstanding on this account at 30 June 1979 totalled $5,048,722. The present maximum loan on first mortgage is $21,000 repayable over a term not exceeding 40 years at an interest rate of 5.75 per cent per annum or 6.75 per cent per annum, determined according to a means test. The present maximum loan on second mortgage is $6,000 repayable over a term not exceeding 15 years at an interest rate of 11 per cent per annum. Interest rates on first mortgages are subject to variation, with a likely increase of 0.5 per cent per annum for each year the loan has been advanced, to a ceiling interest rate not exceeding the Commonwealth Bond rate.

Western Australia: State Housing Commission of Western Australia. Under current policy commenced by the Commission in October 1976, all sales are on a cash basis through approved Terminating Building Societies with finance to be funded from the Home Purchase Assistance Account where the family is eligible, or from an outside source where the family is ineligible for Home Purchase Assistance Account finance.

Assistance through Terminating Building Societies is available to acceptable applicants under first mortgage conditions if they are able to meet the eligibility requirements. Funds are not available for second mortgages.

The Commission can refer only those applicants who are able to satisfy eligibility requirements to the various Terminating Building Societies. Acceptance of their application for a loan lies with the Society concerned. They are not bound to assist Commission applicants. The interest rate on advances varies from 6 per cent to 9 per cent depending on family income and the maximum repayment period is thirty years.

The Societies are required to accept no less than 3 per cent of the value of the house and land as deposit, but a deposit of 5 per cent or greater is sought by the societies. If the amount of finance required is in excess of the combined maximum advance and deposit provided, a second mortgage or personal loan will be required to bridge the gap.

The income is based on seasonally adjusted average weekly earnings; currently (September 1979) an applicant in the metropolitan area cannot have an income exceeding $219.83 per week, plus $5.00 per week for each dependent child in excess of two. The maximum value of house and land is $30,000 with a maximum advance of 90 per cent of the maximum valuation being obtainable.

The remainder of the State is divided into areas in which the income eligibility varies from $219.83 per week to $300.82 per week plus $5.00 per week for each dependent child in excess of two. The maximum advance in these areas is 90 per cent on the maximum value of house and land which varies from $30,000 to $52,000.

(*See* Savings Banks, page 243 of Year Book No. 61, for activities of the Savings Bank Division of the Rural and Industries Bank of Western Australia.)

Tasmania: Department of Housing and Construction, Housing Division. The interest rate on purchase contract loans at 1 July 1979 was 5.75 per cent. The number of loans outstanding at 30 June 1979 was 7,038 and the amount outstanding, $55,688,000.

Agricultural Bank of Tasmania. The Agricultural Bank of Tasmania is responsible for the administration of funds made under the Home Purchase Assistance section of the *Housing Assistance Act* 1978. A new Housing Agreement operating from 1 July 1978 consolidates all past agreements. The State has also provided State Loan Funds for lending under the *Homes Act* specifically available for first home builders. Interest rates vary from 6 per cent to 9.5 per cent depending on need. Repayments are normally 30 years.

Principles to apply under the new agreement include:

- To facilitate home ownership for those able to afford it but not able to gain it through the private market.
- Provide assistance for home ownership in the most efficient way and thus exclude from eligibility those not in need, to minimise continued availability of assistance to those no longer in need and to accord benefits which are designed so that assistance being provided is related to the particular family's or individual's current economic and social circumstances.
- The States will be able to exercise maximum autonomy and flexibility in the administrative arrangements necessary to achieve these principles.

The following table shows details for recent years.

AGRICULTURAL BANK, ADVANCES FOR HOUSING (*a*)

Particulars	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Advances approved:						
Number	490	453	431	393	366	366
Value ($'000)	5,480	6,148	6,100	8,355	8,354	7,532
Advances Outstanding (*b*) ($'000)	25,608	30,290	33,481	38,832	43,726	49,190

(*a*) Excludes advances to Co-Operative Housing Societies. (*b*) At end of period.

Northern Territory: Loans Scheme. On 1 October 1979, the Northern Territory Government introduced a loans scheme to provide finance for the erection of a house, the purchase, enlargement or modification of an existing dwelling or the completion of a partially erected dwelling. Loans are provided to a maximum of 98 per cent of the valuation of the dwelling to a limit of $44,000. An income-geared escalating interest rate is charged on the borrowings, starting at 4 per cent per annum for low-income groups to one per cent above the Long Term Bond Rate. The maximum period of repayment is forty-five years. Where borrowers are capable of obtaining finance privately, loans are proportionately lower and on a second mortgage basis.

Sales Schemes. Two schemes exist to allow eligible tenants of Northern Territory Housing Commission dwellings to purchase. Under the *General Public Sales Scheme,* sales are on a cash basis only to approved tenants who have completed a satisfactory tenancy of at least two years. A *Staff Sales Scheme* also operates to allow tenants of Northern Territory Public Service dwellings to purchase after a qualifying period of two years. Sales are for cash or on terms requiring a minimum deposit of 5 per cent of the purchase price with repayments over a maximum period of 45 years including interest at either 5.75 per cent or 9 per cent subject to a means test.

Australian Capital Territory: Loans to a maximum of $23,000 over a maximum term of thirty-two years may be granted by the Commissioner for Housing for the purchase or erection of dwellings in the Australian Capital Territory to a person who does not already own a dwelling in the Australian Capital Territory or Queanbeyan; is not employed outside the Australian Capital Territory; and has not, or whose spouse has not, already had financial assistance from Government funds for housing in the Australian Capital Territory.

A means test is applied for loans. Applicants whose joint income does not exceed 120 per cent of the Australian male seasonally-adjusted average weekly earnings may qualify for a loan. An additional income allowance of $2.00 per week is made for each dependent child in excess of two.

The rate of interest is 10¼ per cent, with a reduction of 1 per cent if payment is made by the due date. A concessional rate of 6¾ per cent (less 1 per cent if payment is made by the due date), applies if the combined gross income of the breadwinner and spouse does not exceed 120 per cent of the Australian seasonally adjusted male average weekly earnings. At 30 June 1979, 13,544 houses were under mortgage to the Commissioner.

Governmental rental houses valued at current market values may be sold to tenants. The basis of the sale is a minimum deposit of 5 per cent of the purchase price fixed by the Department of the Capital Territory with no limit to the amount which may be held on mortgage from the Department. Repayment of the amount covered by mortgage may be made over a maximum period of thirty-two years. There are two rates of interest applicable: the normal rate is 9.75 per cent (less one per cent for payment by the due date) on the first $15,000 and 12½ per cent (less one per cent as above) on the remainder of the mortgage; while a concessional rate of 6¾ per cent (less one per cent for payment by the due date) applies in situations where the combined incomes of breadwinner and spouse do not exceed 95 per cent of Australian Capital Territory average weekly earnings. In both instances, an allowance of $2 for each dependent child after the second child is deducted from total gross income. To 30 June 1978, 13,848 houses had been sold to tenants.

Savings banks, trading banks, life insurance companies and registered building societies

For information on loans approved to individuals for owner occupied housing *see* Chapter 21, Private Finance.

CONSTRUCTION

Building

Building activity is a significant indicator of the level of economic activity. In addition, the level of building activity and the types of buildings being constructed affect the Australian physical and social environment. Building approvals statistics give an indication of the potential future level of investment of private individuals, companies and government agencies in approved building construction. As such, they provide information about potential future building activity. Building operations statistics show the level of actual building construction activity in terms of the level of commencements and completions, building jobs under construction and the value of work done and yet to be done on building jobs.

The building statistical collections cover all new dwellings, new other building jobs valued at $10,000 and over, and alterations and additions (to both dwellings and other building) valued at $10,000 and over. From 1966-67 to 1972-73, alterations and additions of $10,000 and over were included with new dwellings and new other building. From 1973-74, alterations and additions (of $10,000 and over) to new dwellings are shown separately, but for other building, new work and alterations and additions continue to be shown combined.

Number of new houses

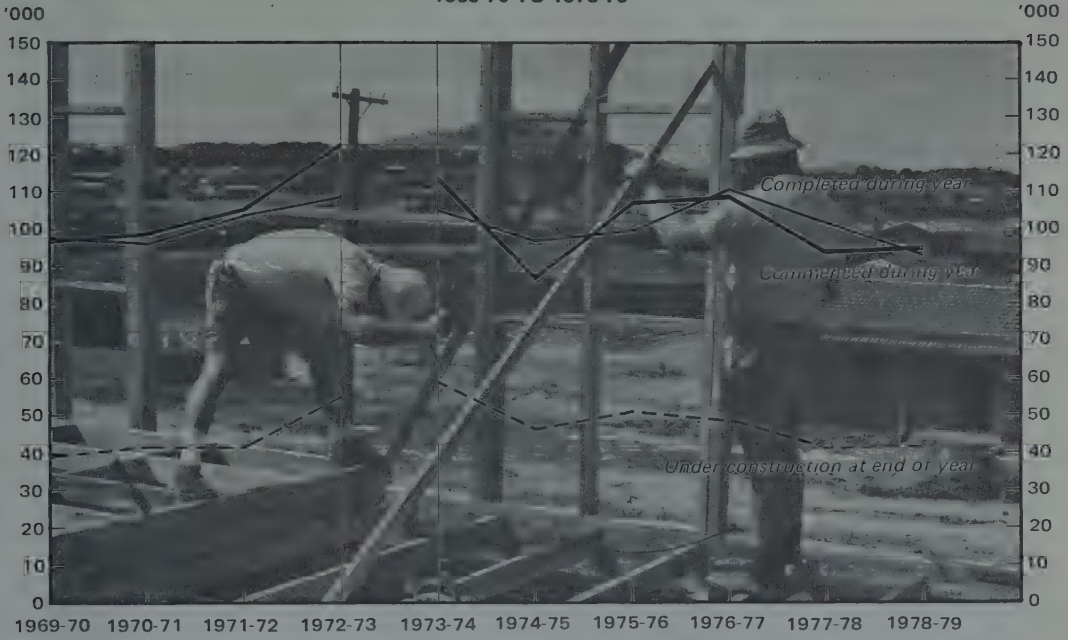
The following table provides a summary of the number of new houses approved, commenced, completed and under construction by type of ownership in each State and Territory for the year 1978-79. For a graph showing these details over a ten-year period, *see* Plate 41, page 497.

NUMBER OF NEW HOUSES 1978-79
('000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Private–									
Approved	31.9	21.9	20.5	5.8	11.1	2.3	0.3	1.6	95.3
Commenced	29.5	20.5	19.0	5.4	10.7	2.3	0.3	1.6	89.3
Completed	25.9	22.0	18.4	5.5	10.4	2.1	0.4	1.5	86.1
Under construction (*a*)	13.3	12.1	5.1	2.1	3.7	1.6	0.3	0.8	38.9
Government–									
Approved	1.3	0.9	0.4	1.1	0.7	0.5	0.6	–	5.5
Commenced	1.3	1.0	0.5	0.7	0.8	0.6	0.6	–	5.5
Completed	1.3	1.5	0.8	1.3	0.7	0.5	0.7	0.1	7.0
Under construction (*a*)	0.9	0.6	0.1	0.5	0.3	0.3	0.3	–	3.0
Total–									
Approved	33.2	22.7	20.9	6.9	11.7	2.8	0.9	1.6	100.8
Commenced	30.8	21.5	19.5	6.1	11.5	2.9	0.9	1.6	94.7
Completed	27.2	23.4	19.2	6.8	11.1	2.6	1.1	1.6	93.1
Under construction (*a*)	14.2	12.6	5.2	2.6	4.0	1.9	0.6	0.8	41.9

(*a*) At end of period.

NEW HOUSES : AUSTRALIA
1969-70 TO 1978-79



NOTE: BREAK IN SERIES FROM 1973-74, *SEE* PAGE 496

PLATE 41

Number of new houses completed by material of outer walls

The use of certain materials for outer walls is dictated by such factors as cost, durability, appearance and climatic conditions. Changes in the materials used over time indicate changes in the characteristics of the housing stock.

The following table shows the number of new houses completed in each State and Territory during the year 1978–79, classified according to the material of their outer walls.

NUMBER OF NEW HOUSES COMPLETED BY MATERIAL OF OUTER WALLS 1978-79
('000)

Material of outer wall	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Double brick(*a*)	2.0	1.8	2.8	2.1	8.7	0.2	0.5	–	18.1
Brick veneer(*a*)	21.5	18.8	10.2	3.5	1.5	2.1	0.1	1.5	59.2
Timber	0.6	1.3	1.6	0.2	0.1	0.2	0.2	–	4.2
Asbestos cement	2.9	1.5	4.4	1.0	0.8	0.1	0.1	–	10.8
Other	0.2	0.1	0.1	–	–	–	0.2	–	0.8
Total	**27.2**	**23.4**	**19.2**	**6.8**	**11.1**	**2.6**	**1.1**	**1.6**	**93.1**

(*a*) Includes houses constructed of concrete masonry blocks, concrete and stone.

Number of new other dwellings

The level of other dwelling construction is highly variable and does not follow the traditionally regular pattern experienced in house construction. This can be explained partly by the generally larger size of other dwelling construction jobs and also by the extent of speculative building of private flats, home units and similar other dwelling projects. Although construction of government-owned other dwellings is substantial, the proportion of government-owned other dwellings to total other dwellings constructed is smaller than that of government-owned houses to total houses.

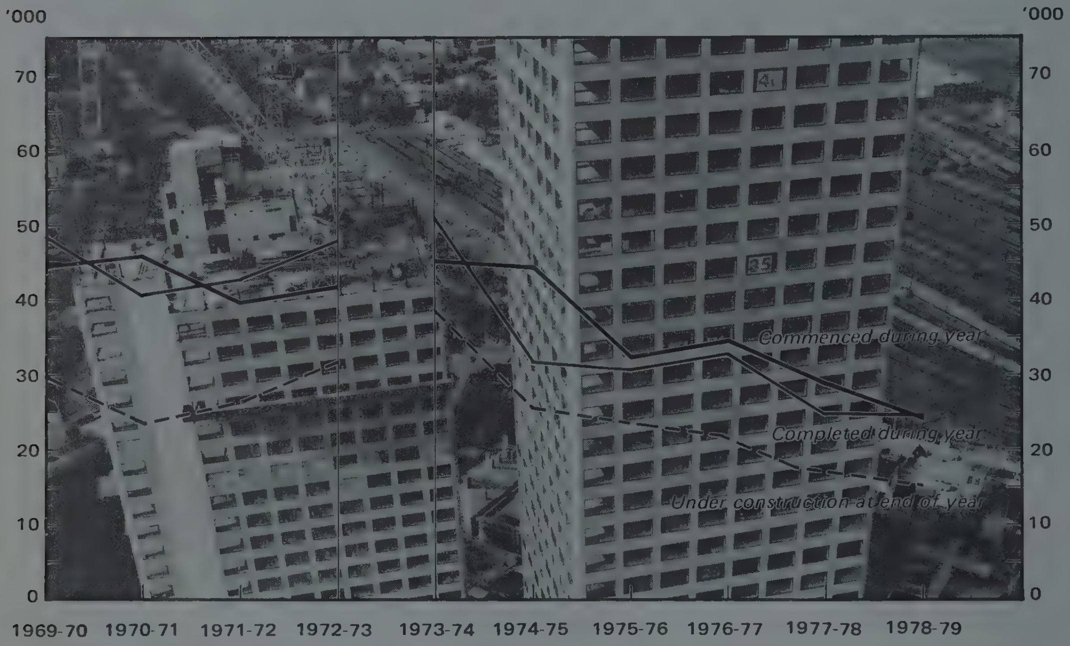
The following table shows the number of new other dwellings approved, commenced, completed and under construction by type of ownership in each State and Territory for the year 1978–79. For a graph showing these details over a ten year period, *see* Plate 42, page 498.

NUMBER OF NEW OTHER DWELLINGS, 1978-79
('000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Private—									
Approved	7.2	3.1	6.9	0.9	3.2	0.5	0.3	0.4	22.5
Commenced	6.5	3.2	5.4	0.8	3.2	0.5	0.2	0.5	20.3
Completed	5.5	4.0	4.8	1.0	3.1	0.6	0.2	0.3	19.5
Under construction(*a*)	4.8	2.3	2.6	0.7	1.7	0.4	0.1	0.3	12.9
Government—									
Approved	1.5	0.8	0.4	0.3	0.5	0.3	0.2	–	4.1
Commenced	1.5	0.8	0.5	0.5	0.4	0.3	0.1	–	4.0
Completed	2.3	0.5	0.3	0.6	0.4	0.3	–	0.1	4.5
Under construction(*a*)	2.4	0.6	0.2	0.5	0.1	0.2	0.1	0.1	4.2
Total—									
Approved	8.8	3.9	7.4	1.2	3.7	0.8	0.4	0.4	26.6
Commenced	8.0	4.0	5.9	1.3	3.6	0.8	0.3	0.5	24.4
Completed	7.8	4.5	5.2	1.6	3.5	0.9	0.2	0.4	24.1
Under construction(*a*)	7.1	2.9	2.8	1.2	1.8	0.6	0.2	0.4	17.1

(*a*) At end of period.

NEW OTHER DWELLINGS : AUSTRALIA
1969-70 TO 1978-79



NOTE: BREAK IN SERIES FROM 1973-74, *SEE* PAGE 496

PLATE 42

Number, average value, average value per square metre and average size of private contract built houses

The following table shows the number, average value, average value per square metre and average size in square metres of private contract built new houses commenced in each Capital City Statistical Division, the Greater Darwin Area and the A.C.T. part of the Canberra Statistical District which comprises the urban areas of the A.C.T. The average value and average value per square metre are based on the final contract price of houses when complete (or estimates of this price) provided by contractors at the time of commencement of building work.

NUMBER, AVERAGE VALUE, AVERAGE VALUE PER SQUARE METRE AND AVERAGE SIZE OF NEW PRIVATE CONTRACT BUILT HOUSES COMMENCED 1978-79

	Capital City Statistical Divisions								
	Sydney	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Greater Darwin area*	*Canberra (A.C.T. part)*	*Total*
Number ('000)	13.6	10.5	7.4	2.6	7.1	0.4	0.1	1.6	43.2
Average value ($'000)	32.2	31.5	27.3	34.5	29.7	31.9	38.5	33.9	31.0
Average size (sq. m)	146	142	135	155	146	134	136	144	144
Average value per sq. m ($)	220	222	203	223	203	241	286	236	216

Value of buildings

The following table shows the value of all buildings approved, commenced, completed, under construction, work done and work yet to be done in Australia for the year 1978-79, according to the class of building. The classification of other building by type of building is according to the function a building is intended to serve as specified on building authorisations.

VALUE BY CLASS OF BUILDING, 1978-79
($ million)

Class of building	*Approved*	*Commenced*	*Completed*	*Under construction(a)*	*Work done (b)*	*Work yet to be done (a)*
New houses	3,047.7	3,023.4	2,942.7	1,448.5	3,015.0	744.4
New other dwellings	602.2	615.0	587.0	468.8	611.7	244.4
Total new dwellings	*3,649.8*	*3,638.3*	*3,529.7*	*1,917.3*	*3,626.7*	*988.8*
Alterations and additions to dwellings(c)	*331.4*	*317.2*	*301.8*	*131.3*	*313.2*	*63.8*
Hotels, etc.	93.2	93.4	73.8	76.4	86.4	37.3
Shops	452.0	440.0	407.3	375.9	467.9	164.4
Factories	423.8	396.5	419.0	339.2	445.6	113.6
Offices	352.1	330.9	397.5	695.7	425.6	283.4
Other business premises	250.1	283.3	285.6	225.3	291.6	106.4
Education	393.6	468.6	522.2	463.8	481.3	223.9
Religion	25.8	27.1	29.0	14.6	27.2	8.6
Health	169.9	298.9	261.3	674.4	324.0	284.9
Entertainment and recreation	206.7	222.6	173.3	220.0	197.5	136.4
Miscellaneous	304.5	291.5	230.6	383.3	250.6	233.7
Total other building	*2,671.7*	*2,852.8*	*2,799.6*	*3,468.5*	*2,997.7*	*1,592.8*
Total building	**6,652.9**	**6,808.4**	**6,631.1**	**5,517.1**	**6,937.6**	**2,645.5**

(*a*) At end of period. (*b*) During period. (*c*) Valued at $10,000 and over.

Construction (other than building)

These statistics relate to work by private contractors on construction (other than building) prime contracts valued at $100,000 or more, inclusive of all associated sub-contract work performed for the prime contractor. Alterations and additions undertaken as prime contracts valued at $100,000 or more are included in the statistics. Repairs and maintenance contracts, construction undertaken by government authorities involving their own work forces, and construction on their own account by enterprises in the private sector, are excluded.

The following table shows the value of construction (other than building) activity undertaken as prime contracts commenced, completed, under construction, work done and work yet to be done in Australia for the year of 1977-78.

VALUE OF CONSTRUCTION (OTHER THAN BUILDING) PRIME CONTRACTS BY OWNERSHIP, 1977-78
($ million)

	Commenced	*Completed*	*Under construction(a)*	*Work done(b)*	*Work yet to be done(a)*
PRIVATE					
Roadwork	70.9	90.0	48.4	76.5	20.9
Water supply, storage, sewerage and drainage	27.8	29.8	9.3	32.4	3.9
Electricity, oil and gas production and distribution facilities	42.4	85.8	n.p.	31.9	n.p.
Marine work	7.8	65.3	2.0	12.4	1.2
Heavy industrial facilities	n.p.	n.p.	304.0	238.3	149.6
Other(*c*)	n.p.	n.p.	n.p.	72.8	n.p.
Total	*595.6*	*532.7*	*479.1*	*464.3*	*234.7*
GOVERNMENT					
Roadwork	131.1	183.8	156.0	160.0	59.0
Water supply, storage, sewerage and drainage	208.2	333.0	461.6	258.6	146.8
Electricity, oil and gas production and distribution facilities	232.9	131.2	n.p.	280.4	n.p.
Marine work	105.5	73.4	213.1	74.3	132.4
Heavy, industrial facilities	n.p.	n.p.	11.3	10.1	1.7
Other(*c*)	149.5	138.3	n.p.	186.7	n.p.
Total	*835.6*	*873.6*	*2,292.1*	*970.1*	*941.1*
TOTAL					
Roadwork	202.0	273.8	204.4	236.5	79.8
Water supply, storage, sewerage and drainage	236.0	362.8	470.9	291.0	150.7
Electricity, oil and gas production and distribution facilities	275.3	217.1	1,064.2	312.3	485.9
Marine work	113.3	138.7	215.1	86.7	133.7
Heavy industrial facilities	n.p.	n.p.	315.2	248.3	151.3
Other(*c*)	n.p.	n.p.	501.4	259.5	174.4
Total	**1,431.2**	**1,406.3**	**2,771.2**	**1,434.4**	**1,175.8**

(*a*) At end of period. (*b*) During period. (*c*) Comprises bridges, aerodromes, railways, telecommunications and miscellaneous.

More detailed information on building activity is contained in *Building Statistics, Australia* (quarterly) (8705.0). Current information is obtainable also in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (monthly) (1305.0), the *Building Statistics, Australia: Number of Dwellings, Preliminary Estimates* (quarterly) (8703.0), *Building Operations, Australia* (quarterly) (8704.0), *Building Approvals, Australia* (monthly) (8702.0) and *Construction (other than building) Operations, Australia* (quarterly) (8708.0). Details for particular States are available from publications issued regularly by the Deputy Commonwealth Statistician in each State. The *Building Industry Quarterly* published by the Department of Housing and Construction contains further information on current trends in housing activity.

The annual reports of the Commonwealth and State Government Housing Authorities show further details of government activities in the field of housing.

CHAPTER 20

TRANSPORT AND COMMUNICATION

CHAPTER 20

TRANSPORT AND COMMUNICATION

This chapter contains information on shipping; railways; tram, bus and ferry services; motor vehicles; road traffic accidents; roads and bridges; air transport; postal services; internal and overseas telecommunication services; radio communication stations; broadcasting and television; and government bodies concerned with these activities.

More detailed figures and particulars for earlier years are included in the publications listed at the end of the chapter.

TRANSPORT ORGANISATIONS

The Australian Transport Advisory Council

In April 1946, the State and Commonwealth Governments agreed to establish a co-ordinating and advisory committee at Ministerial level to review annually the various laws and regulations deemed necessary to safeguard the interests of the State Governments and road users generally and to consider matters of transport policy.

The Australian Transport Advisory Council (ATAC), thus established, is comprised of the Commonwealth Ministers for Transport, Capital Territory, Northern Territory, and each State Minister responsible for transport and roads and the Northern Territory Minister for Transport and Works. The New Zealand Minister responsible for transport attends as an observer.

The council primarily considers policy matters relating to transport operations, co-ordination and developments. Its functions are: to initiate discussion and report to the respective Governments as necessary on any matter raised by the Council or any State or Commonwealth Government Authority; generally to exercise its purely advisory functions and to report as necessary to the respective Governments concerned on any matter which will tend to promote a better co-ordination of transport development, while at the same time encouraging modernisation and innovation to meet changing needs; and to assist in maintaining continuous and comprehensive research in relation to transport development in Australia and abroad, such research to be carried out for the benefit of Australian Transport authorities and agencies.

The regulation of and the executive responsiblity for transport is shared between the Commonwealth and State Governments. The ATAC is the meeting ground at a ministerial level and provides an effective means of inviting discussion and reaching uniformity of approach towards transport administrative procedures and policy. It also provides a means for reviewing and discussing national solutions of transport problems and the rectification of transport deficiencies generally. The Council has been active in: the establishment of special committees and conferences to examine and report on specific problems such as road safety, motor vehicle standards and safety features, motor vehicle emissions, transport economic research, and highway planning; the exchange of views and the formulation of common policies on a wide range of transport matters; the effecting, at ministerial level, of Commonwealth/State and interstate co-operation on such matters as urban transport arrangements and funding, provision of funds for roads, construction and operation of interstate railway links, collecting of fines and fees interstate, policing of regulations, etc., and the publication of comprehensive surveys of Australian transport.

The Council is advised by the following four policy groups: *Co-ordinating and General Transport Group,* comprisng principal Ministerial advisers, such as the Permanent Heads of the relevant Departments, deals with overall issues of policy co-ordination and development as well as topics which do not fall within the terms of reference of the other groups. *Railway Group,* comprising State and Commonwealth Railway Commissioners, together with Commonwealth Government representatives, advises on all railway matters considered by the Council. *Road Group,* comprising State Road Commissioners together with Commonwealth Government officials, advises the Council on matters concerned with the construction and maintenance of all classes of roads and their financing. The *Motor Transport Group,* consisting of the principal State officials in the motor vehicle safety and regulatory areas, together with Commonwealth Government representatives, advises the Council on all matters arising from the work of the technical advisory committees and on vehicle safety standards, technical standards and on-road operation.

The technical committees advising the Council are: The *Advisory Committee on Vehicle Performance;* The *Advisory Committee on Road User Performance and Traffic Codes;* The *Advisory Committee on the Transport of Dangerous Goods;* The *Committee on Motor Vehicle Emissions;* The *Advisory Committee on Safety in Vehicle Design;* The *Publicity Advisory Committee on Education in Road Safety;* and Ad-hoc advisory committees. In addition to these technical committees, an Energy Working Group reports to the Co-ordinating and General Transport Group on energy matters.

Transport Industries Advisory Council

The Transport Industries Advisory Council (TIAC) was formed following the March 1971 Australian Transportation Conference. The TIAC, an access channel between industry and the Commonwealth Minister for Transport, provides advice and comment to the Minister on policy issues as well as recommendations related to improving transport systems in Australia.

The 36 members of TIAC are drawn from senior management in all modes of transport, major consumers, Government bodies and unions. The Minister appoints members on the basis of personal expertise. New members, appointed annually, serve on the Council for extendable terms of three years. The full Council which meets four times a year, operates through three Working Committees. The Council is represented at pre-budget economic consultative meetings with the Prime Minister and Cabinet Ministers.

The Council was largely responsible for initiating the Transport Activity Indicator Project which provides quarterly statistical information on transport in Australia. Examples of topics currently under consideration by TIAC include the Australian rail systems; a uniform code for the safe transport of dangerous goods; future fuel and energy availability; container handling; identification of real transport costs; need for a national transport strategy.

The TIAC has a small Secretariat located in the Commonwealth Department of Transport.

Marine and Ports Council of Australia

The Marine and Ports Council of Australia (MPCA) provides an advisory forum for Commonwealth and State Governments in which to discuss initiatives and developments in marine and port matters. Membership comprises the Commonwealth Minister for Transport (Chairman) and State and Territory Ministers whose portfolios include responsibility for ports and maritime services.

Evolving from six meetings of a Commonwealth/State Ministerial Council for Port Development and Marine Affairs, the MPCA was convened for the first time in May 1976, bringing together Commonwealth and State policy-making machinery in relation to ports, the administration of shipping matters, cargo movements, shipping and marine laws, marine pollution control, safety and consultation on treaties. The Council now meets bi-annually.

To assist the Council in its deliberations there exists a Committee of Advisers comprising Commonwealth, State and Territory ministerial advisers, generally at permanent head level or equivalent, who are responsible for marine and ports matters. This Committee makes recommendations to Ministers on matters referred to them by Ministers or from within the Committee.

Aviation Industry Advisory Council

The Aviation Industry Advisory Council (AVIAC) was established in 1978 to enhance the level of consultation between the aviation industry and the Government. The Council provides advice to the Commonwealth Minister for Transport on policies, plans and programs relating to the aviation industry within Australia, promotes the continuing development of a safe, efficient, economic aviation industry within Australia, and provides a forum for discussion of important matters of joint concern to the aviation industry and Government.

Membership of the Council consists of the Commonwealth Minister for Transport (Chairman); Secretary to the Department of Transport; Chairman of Qantas Airways Ltd, Australian National Airlines Commission (TAA), Ansett Transport Industries Ltd, East-West Airlines; National President of the General Aviation Association; and presidents of the Aircraft Owners and Pilots Association of Australia and the Royal Federation of Aero Clubs of Australia.

The AVIAC has established a Committee of Advisers to assist in the analysis and preparation of matters to put to the Council for deliberation and decision.

The Bureau of Transport Economics

This Bureau, which from June 1977 incorporated the functions of the former Commonwealth Bureau of Roads, undertakes research and analysis to assist the Commonwealth Government in the assessment, formulation and development of policy aimed at the efficient allocation of resources in the transport field. This work covers all transport activities and includes the analysis of funding for road investment as well as matters relating to the reduction of transport costs and the rational planning of future transport facilities. For administrative purposes the Bureau is attached to the Department of Transport, but it is responsible to the Minister for Transport for the conduct of its studies and investigations.

SHIPPING

Control of shipping

Commonwealth Government navigation and shipping legislation

Commonwealth Government Acts concerned with shipping are: the *Navigation Act* 1912, the *Sea-Carriage of Goods Act* 1924, the *Seamen's Compensation Act* 1911, the *Seamen's War Pensions and Allowances Act* 1940, the *Pollution of the Sea by Oil Act* 1960, the *Pollution (Shipping Levy) Act* 1972, the *Pollution (Shipping Levy Collection) Act* 1972, the *Australian Shipping Commission Act* 1956, the *Stevedoring Industry Act* 1956, the *Beaches, Fishing Grounds and Sea Routes Protection Act* 1932, the *Submarine Cables and Pipelines Protection Act* 1963, the *Lighthouses Act* 1911, the *Explosives Act* 1961, the *Inter-State Commission Act* 1975, the *King Island Harbour Agreement Act* 1973, the *King Island Shipping Service Agreement Act* 1974, the *Ship Construction Bounty Act* 1975, the *Trade Practices Act,* 1974, Part X.

Navigation Act 1912 as Amended

One of the largest Commonwealth Acts, the Navigation Act, with forty-three sets of Regulations made under it, provides for various regulatory controls over ships and their crews, passengers and cargoes, mainly in connection with the ensuring of the safety of the ship and the preservation of life at sea. Substantial penalties are provided for serious offences. In particular, it gives effect to the important international conventions produced under the aegis of the Inter-Governmental Maritime Consultative Organization (IMCO) dealing with safety of life at sea, ships' load lines and prevention of collisions.

Taken in the order in which they appear in the Act, the main substantive matters dealt with are as follows:

Masters and seamen. Some sections deal with the examination of masters, mates and engineers for certificates of competency. Other sections ensure that appropriate conditions apply to crews serving on ships by providing for the supervision of the engagement, discharge and payment of wages; discipline at sea; the settlement of wages and other disputes; the return to their home port of distressed seamen; taking charge of wages and effects of deceased seamen and of those who have deserted or been left behind; and enquiries into deaths at sea. These matters are administered by Mercantile Marine Offices established at numerous ports. The health of seamen is cared for by the prescription of scales of medicines and medical stores to be carried by ships, and there are provisions to give effect to International Labour Organisation Convention requirements for the accommodation of crews. Plans for new or altered accommodation in ships have to be approved by a Crew Accommodation Committee.

There are requirements for the manning of ships, designed to ensure that sufficient officers and men are carried for safety and operational purposes. Manning disputes are dealt with by statutory Committees of Advice. The Act provides for a Marine Council to advise the Minister on the suitability of persons for engagement as seamen.

Ships and shipping. There are particularly important provisions dealing with ship safety in such matters as survey of ships, load lines, life-saving and fire appliances, prevention of collisions, and carriage of potentially dangerous cargoes. Whilst in Australia, all ships come under the survey provisions of the Navigation Act and require certificates issued by the Department of Transport unless they are registered in a country which is a party to the Convention concerned and hold valid certificates issued by their Governments and conforming to the requirements of the Safety of Life at Sea and Load Lines Conventions. There is power to detain any ship the condition of which does not conform with the conditions set out in its certificate or which appears to be overloaded or otherwise unseaworthy.

Passengers. These provisions deal with matters necessary or convenient for regulating the carriage of passengers in respect of such matters as numbers that may be carried, accommodation and health aspects.

Coasting trade. Under the coastal trade provisions of the Navigation Act, the Australian coastal trade is reserved for licensed vessels, i.e. those which comply with Australian standards of manning, accommodation, and award conditions and wages. The Act does not restrict the class of ships which may obtain a licence. It is open to any vessel irrespective of the registry to obtain a licence on compliance with these conditions and to operate in the Australian coastal trade subject to approval being given for the importation of the vessel where necessary. Provision exists for unlicensed vessels to operate in the coast trade under single voyage permits in certain circumstances where licensed vessels are not available or are inadequate to meet the needs of the trade. Strict control is exercised over the issue of permits for the carriage of coastal cargoes.

Wrecks and salvage. There are provisions in relation to wrecks and salvage, covering preservation of life and of the wreck and its cargo and related matters.

Prevention, etc., of pollution by oil of the Australian coast, coastal waters and reefs. Under these provisions, where oil is escaping, or likely to escape, from a ship, the Minister is empowered to take action to prevent or reduce pollution of the area.

Courts of Marine Inquiry. There are provisions for the holding of Courts of Marine Inquiry to investigate the circumstances attending any casualties to ships that come within Commonwealth legislative authority, usually following a preliminary investigation. Such courts are provided with power to examine all the circumstances and to deal with the certificates of ships' officers found to have been at fault.

The last amending Navigation Act was passed in 1972. It was mainly for the purpose of inserting provisions dealing with the tonnage measurements of ships.The *Navigation Amendment Act* 1979 (No. 98 of 1979) received Royal Assent on 22 October 1979. It deals with a wide range of matters and only amendments contained therein of a general or more formal nature are already in force. Important groups of sections of the Act will be brought into operation at appropriate dates in the future; regulations and orders must first be made, instruments of ratification of certain international conventions deposited and new procedures, etc. introduced.

Australian Shipping Commission

The Commission was established by the *Australian Coastal Shipping Commission Act* 1956. The Commission's role has been to establish, maintain and operate interstate, overseas and territorial shipping services. The Commission's title was changed in October 1974 to the Australian Shipping Commission to reflect the increasing importance of its overseas trading activities.

As at 30 June 1979 the Commission, operating as the Australian National Line, owned and/or operated a fleet of thirty-five vessels. The fleet included 13 vessels engaged in overseas trades comprising: five vehicle deck cargo ships totalling 104,712 tonnes deadweight; three cellular container ships totalling 95,951 tonnes deadweight; four ore-bulk carriers totalling 524,187 tonnes deadweight; and one hybrid container vessel of 16,477 tonnes deadweight.

The fleet also included twenty-two vessels engaged in coastal trades comprising one vehicle deck passenger ship, the *Empress of Australia* of 2,736 tonnes deadweight; seven vehicle deck cargo ships totalling 48,410 tonnes deadweight; one container bulkship of 12,140 tonnes deadweight in the Darwin trade; two bulk carriers in the over 100,000 tonnes deadweight class; three bulk carriers in the 50-100,000 tonnes deadweight class; six other bulk carriers each less than 50,000 tonnes deadweight totalling 96,301 tonnes deadweight; two bulk carriers totalling 55,190 tonnes deadweight which had yet to be commissioned by the Line.

The Line operated specialised terminals at Adelaide, Melbourne, Burnie, Devonport, Bell Bay, Sydney, Port Kembla, Brisbane, Mackay, Townsville, Cairns and Darwin.

The *Empress of Australia* carried 113,285 passengers between Melbourne and Devonport together with 30,501 vehicles during the year ending 30 June 1979.

Australian Shipbuilding Board

The Australian Shipbuilding Board has six members including representatives from each of the Departments of Defence (Navy Office), Transport and Industry and Commerce and the trade union movement and provides advice to the Minister for Industry and Commerce on matters relating to the shipbuilding industry. The Board advises the Minister on such matters as bounty prices and registration of shipyards within the terms of the Ship Construction Bounty Act, subsidy assistance under the provisions of the Australian Shipping Commission Act and other matters referred to the Board by the Minister.

Shipbuilding Assistance

The shipbuilding industry in Australia has been given Government assistance since the introduction of the shipbuilding subsidy scheme in 1947. The level of maximum subsidy has been determined by the Government on the basis of inquiries into the industry by the former Tariff Board, now the Industries Assistance Commission. These inquiries have been held in 1954, 1959, 1963, 1971, 1976 and 1977–79.

Financial assistance under the present policy is given effect by the *Ship Construction Bounty Act* 1975. Assistance is by way of a bounty at a fixed percentage dependent upon the size of the vessel and, for maximum bounty, the date upon which construction was commenced in the shipyard. This rate is applied to the lowest acceptable Australian tender received as a result of public calling of tenders with appropriate deductions applied for items ineligible for bounty. Under the policy Australian owners may seek approval to import ships when overseas prices are less than the bounty-paid Australian price.

Vessels eligible for the bounty are fishing vessels of 21 metres length and longer and other vessels of 150 gross construction tons and above. For the smaller vessels, bounty is at 25 per cent, rising at 2.5 per cent per 1,000 tons gross to the maximum which, in 1979, is 29 per cent. This diminishes to a long-term rate of 25 per cent for vessels commenced in 1981. The administration of the policy on shipbuilding assistance is the responsibility of the Minister for Industry and Commerce.

In May 1977, the Government sent a reference to the Commission on assistance to be accorded to the production of vessels under 6000 tg. The draft report was released on 2 April 1979, and the final report was provided to the Government in July 1979.

In 1978–79, a total of 47 bountiable vessels were completed at Australian yards (as compared with 23 in 1977–78 and 31 in 1976–77). However, as construction of large ships in Australia ceased in 1978 the increase has been due to more extensive construction of fishing vessels, ferries, and launches.

As at 30 June 1979, a total of 41 yards were registered under the Bounty Act, however only 13 of these yards were actually building vessels. Vessels built at registered yards include tugs, oil rig supply vessels, fishing boats, and small trading vessels. In addition, there are numerous smaller yards building non-bountiable vessels such as pleasure craft, small fishing vessels, and other small craft.

Bounty and subsidy payments made during 1978–79 amounted to $10.8 million reflecting a decline in such payments over the last four years ($13.6 million in 1977–78, $28.1 million in 1976–77, and $43.7 million in 1975–76). The contraction and final cessation of large shipbuilding in Australia together with a reducing rate of bounty assistance accounts for the decrease in levels of bounty assistance.

Importation of Ships

The control of imports forms an integral part of the Government's shipbuilding assistance arrangements. Under the Customs (Prohibited Imports) Regulations ships may only be imported into Australia with the written permission of the Minister for Transport. The Minister has issued a General Consent under these Regulations permitting certain small vessels to be imported without his specific written permission.

Stevedoring Industry

In December 1977, legislation was introduced which provided for new administrative, financial and industrial arrangements for the stevedoring industry and abolished the Australian Stevedoring Industry Authority. The arrangements give the parties directly involved in the industry greater responsibility in the industry's affairs.

The Stevedoring Industry Finance Committee is responsible for the disbursement of funds collected through statutory man-hour and cargo levies.

A federal co-ordinating committee comprising representatives of the employers and the Waterside Workers' Federation (WWF) and Broken Hill Pty Ltd (BHP) and the Australian National Line oversees the operation of arrangements agreed to in the General Agreement between employers and the WWF. At the port level such matters are handled by Port Co-ordinating Committees set up in the major ports.

Under section 85A of the *Conciliation and Arbitration Act* 1904 a Port Conciliation Service was created to assist parties to an industry award to implement the procedures of that award for the prevention or settling of disputes.

A non-statutory Stevedoring Industry Consultative Council chaired by Sir Alan Westerman, CBE, has been established to provide a forum for discussion and liaison between government(s), user interests and the operating sections of the industry. The Chairman is appointed for a three year period by the Federal government.

The Statutory provisions relating to the industry are contained in the *Stevedoring Industry Finance Committee Act* 1977; the *Stevedoring Industry Levy Act* 1977, the *Stevedoring Industry Levy Collection Act* 1977; and the *Port Statistics Act* 1977.

Tasmanian Freight Equalisation Scheme

The Commission of Inquiry into Transport to and from Tasmania in its Report published in March 1976 found that because of Tasmania's physical separation from the mainland by sea, Tasmanian shippers suffer a cost disability in moving non-bulk cargoes by sea between Tasmania and the mainland.

Following on from the Report, the Commonwealth Government introduced, with effect from 1 July 1976, the Tasmanian Freight Equalisation Scheme. The Scheme is designed to equalise door-to-door freight costs of moving certain eligibl commodities between Tasmania and the mainland by sea with those for moving similar commodities over comparable interstate mainland rail and road routes.

The northbound component applies to Tasmanian consignors of specified goods by sea that are bought for use or exported for sale on the mainland. Under the southbound component, however, only certain producer raw materials, machinery and equipment are eligible for assistance. The northbound component was introduced in July 1976 and the southbound component in July 1977. Assistance under the latter applied to shipments made from 1 July 1976.

In 1978–79 assistance provided under the Scheme for northbound cargoes totalled $23.1 million, and $1.6 million in respect of southbound cargoes. Since its inception assistance provided under the Scheme up to the end of 1978–79 totalled $62.0 million. The Commonwealth Department of Transport is responsible for the administration of the Scheme.

Revised rates of assistance for northbound cargoes were introduced on 1 July 1978 following a review of freight costs by the Bureau of Transport Economics. The efficiency of the Scheme is to be reviewed not later than 1980.

Trade Practices Act 1974 (Part X—Overseas Cargo Shipping)

The Overseas Cargo Shipping provisions of the Trade Practices Act (Part X) are administered by the Minister for Transport.

Part X establishes conditions for the operation of outwards shipping conferences and to a lesser extent individual shipowners operating in Australia's outwards trades. Conference agreements between several shipowners in a particular trade make provision for the fixing of common freight rates. They may also include provisions for pooling arrangements and shares of the trade and rationalised sailing schedules. With suitable safeguards, these arrangements can have beneficial effects for shippers in that conference arrangements can lead to regular and predictable services at stable freight rates.

Part X, therefore, exempts conferences from the generally applicable anti-restrictive provisions of the Act, and seeks to ensure adequate safeguards to protect shippers through:

- requiring the filing of outwards conference agreements;
- requiring shipowners to give undertakings to hold meaningful negotiations with the designated shipper body, the Australian Shippers' Council (ASC);
- providing for disapproval of a conference agreement to be exercised by the Governor-General on a number of prescribed grounds, such as a failure on the part of the shipowner to comply with an undertaking, lack of due regard to the need for overseas shipping services to be efficient, economical and adequate, prevention or hindrance of an Australian flag operator from engaging efficiently in overseas cargo shipping to a reasonable extent.

Comparable provisions apply to individual shipowners who are not party to a conference agreement.

Review of Australia's Overseas Cargo Shipping Legislation

On 17 March 1977, the Minister for Transport announced the establishment of a study group to review Australia's overseas cargo shipping legislation.

The review covered the operation of Part X of the Trade Practices Act, possible future legislative arrangements and the role and long-term financing of the Australian Shippers' Council. The review report was tabled in Parliament in November 1977 and an Inter-Departmental Committee was established to report to the Government on the matter. The Government decided in May 1979 to introduce as early as practicable amending legislation to strengthen Part X of the Trade Practices Act, with the aim of providing more effective safeguards for shippers.

Maritime Industry Commission of Inquiry

For details *see* Year Book No. 61, pages 370–1.

Collection and presentation of statistics

Basic documents

From 1 July 1966 shipping statistics have been compiled by the Australian Bureau of Statistics from returns submitted by shipping companies or their representatives to Customs Houses at the various seaports throughout Australia. A return is required for the departure of a vessel from a port as well as for its arrival at that port.

Scope of the statistics

Arrivals and departures of vessels are treated separately in shipping statistics. Not all vessels are included in the statistics, as returns are not required for (i) naval vessels; (ii) yachts and other craft used for pleasure; (iii) foreign fishing vessels that neither load nor discharge cargo; (iv) Australian registered fishing vessels operating from Australian ports; (v) geographical survey vessels, seismic survey vessels, oceanographic survey vessels; (vi) offshore oil drilling rigs and vessels servicing them; (vii) vessels of 200 registered net tons and under.

Period covered by the statistics

Monthly shipping statistics relate to vessels arriving at and departing from each port in a calendar month. Annual statistics are published on a financial year basis.

Statistics of vessels

Statistics of vessels are compiled in terms of registered net tonnages. Net tonnage is expressed in units of 100 cubic feet (i.e. 100 cu ft equals 1 ton) and represents the volume of enclosed space which can be utilised for cargo or passengers.

Statistics of vessel movements

Returns show the last or next port of call of a vessel according to whether an arrival or departure at a port is being reported. Each vessel is classified to either the overseas or the coastal fleets serving Australia. This information, supplemented by the voyage of the vessel indicated by ports it visits to load or discharge cargo, is the basis on which each vessel movement is allocated to one of the following classifications: overseas direct; overseas via other States; overseas via ports in the same State; interstate direct; interstate via ports in the same State; intrastate.

Cargo loaded or discharged

Returns for arrivals show cargo discharged, and for departures cargo loaded, in terms of tonnes or cubic metres, depending on the basis on which freight is charged.

Type of service

Overseas shipping cargo statistics are classified by type of service. Coastal shipping cargo statistics, on the other hand, combine all service types.

For overseas shipping, cargo shipped in liners is shown separately from cargo shipped in tramps, bulkships and tankers. A liner is a vessel which, on the voyage on which cargo is loaded or discharged at an Australian port, is operated to provide services on a specified route on a relatively regular basis.

Statistics of cargo shipped in liner services do not necessarily provide a measure of cargo carried by ships operating under shipping conference arrangements. For example, liner services may be provided by shipping companies which are not parties to conference agreements. Cargo may also be shipped under shipping conference conditions in vessels operating on a voyage charter basis for specific cargo and, in the statistics, such cargo is classified as cargo shipped in tramp vessels.

Country of loading or discharge of overseas cargo

In statistics of overseas shipping cargo, country of loading or discharge of cargo is the country of location of the port where the cargo was loaded on to, or is to be discharged from, a reporting vessel. The countries shown are not necessarily the countries of origin or ultimate destination of cargo because previous or subsequent transhipments of cargo are not taken into account. The statistics of cargo classified by the country in which it was loaded or discharged cannot therefore be compared directly with statistics of overseas trade classified by country of origin or consignment.

Transhipments of cargo within Australia

The State of loading or discharge shown in the statistics is the State in which cargo is loaded onto or discharged from, reporting vessels. Cargo loaded in a given State can therefore include cargo previously shipped interstate, while cargo discharged can include cargo which would subsequently be shipped interstate.

Units of measurement

Deadweight tonnage. A measure of the total mass (weight) of cargo, fuel, potable water, boiler feed water, ballast, stores, crew and their gear, etc. It is equal to loaded displacement tonnage less light displacement tonnage.

Gross tonnage. A measure of the enclosed internal volume of a ship and its superstructure, with certain spaces exempted. It is also an indicator of the total volumetric size of a ship.

Net tonnage. A volumetric measure consisting of the gross tonnage less the volume of non-earning spaces, e.g. master's cabin, crew accommodation, wheelhouse, galley, etc., and an allowance for machinery spaces. Volumetric measurement of ships has not yet been converted to metric.

Overseas shipping

The following table shows the number of vessels entered and cleared direct from and to overseas countries, and the aggregate net tonnage involved, for the years 1971–72 to 1976–77.

OVERSEAS SHIPPING(*a*): VESSELS ENTERED AND CLEARED

		1971–72	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*
Entered	number	5,439	5,647	5,975	6,230	5,772	5,830
	'000 net tons	53,144	62,628	72,042	80,313	75,002	79,666
Cleared	number	5,447	5,631	5,909	6,254	5,824	5,824
	'000 net tons	53,491	62,031	71,462	80,305	75,399	79,503

(*a*) Excludes vessels of 200 net tons and under.

Particulars of the total overseas movement of shipping for each year from 1950–51 are shown in the Statistical Summary of this Year Book.

The following table shows, for each State and the Northern Territory, the number of vessels entered and cleared direct from and to overseas countries, and the aggregate net tonnage involved.

OVERSEAS SHIPPING(*a*): VESSELS ENTERED AND CLEARED, STATES, 1976-77

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Entered	number	1,457	658	1,138	227	1,989	157	204	5,830
	'000 net tons	15,789	5,260	14,807	1,978	37,108	2,506	2,217	79,666
Cleared	number	1,203	558	1,317	300	2,135	128	183	5,824
	'000 net tons	13,844	4,352	16,463	2,202	38,105	2,313	2,223	79,503

(*a*) Excludes vessels of 200 net tons and under.

The following table shows particulars of overseas shipping which entered Australian ports according to country of registration of vessels.

OVERSEAS SHIPPING: VESSELS ENTERED DIRECT, BY COUNTRY OF REGISTRATION, AUSTRALIA(*a*)

('000 net tons)

Country of registration of vessels	*1974–75*	*1975–76*	*1976–77*	*Country of registration of vessels*	*1974–75*	*1975–76*	*1976–77*
Australia	398	512	1,514	Panama	3.189	3.358	4.138
China—excl. Taiwan Province	752	813	870	Singapore, Republic of	991	1,229	1,282
—Taiwan Province only	456	490	695	Sweden	1,506	1,053	875
Denmark	1,022	374	725	United Kingdom	12,263	9,938	8.823
Germany, Federal Republic of	2,575	1,932	1,836	United States of America	860	623	620
Greece	4,248	4,156	4.186	U.S.S.R.	795	1,369	1,114
Hong Kong	345	922	984	Other countries	4,480	4,311	4,039
India	1,548	1,034	2,285	All countries—			
Italy	978	722	629	In cargo	19,764	18,089	19,118
Japan	22,904	24,080	26,049	Proportion of total %	24.6	24.1	24.0
Liberia	11,876	12.129	13.795	In ballast	60,549	56,913	60,548
Netherlands	1,218	798	540	Proportion of total %	75.4	75.9	76.0
Norway	7,909	5,159	4,667	**Grand Total**	**80,313**	**75,002**	**79,666**

(*a*) Excludes vessels of 200 net tons and under.

Australian registered tonnage which entered Australian ports from overseas during the year 1976–77 represented 1.90 per cent of the total tonnage entered.

Interstate shipping

Interstate movement

Interstate direct. The following table shows the number of coastal vessels entered and the net tonnage recorded into each State and the Northern Territory from any other State during 1976–77. Total interstate movements by coastal and overseas vessels are shown in *Total interstate movements* below.

INTERSTATE MOVEMENT: COASTAL VESSELS ENTERED INTERSTATE DIRECT 1976-77(*a*)

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Number of vessels		683	1,238	292	375	163	1,084	71	3,906
Net tonnage	'000 tons	5,502	6,500	2,374	1,942	2,315	3,218	219	22,070

(*a*) Excludes vessels of 200 net tons and under.

Overseas via States. The figures in the following table show the number and aggregate net tonnage of overseas vessels entered and cleared which, having arrived at an Australian port direct from an overseas port, continued their voyages from/to overseas countries via other Australian States.

INTERSTATE MOVEMENT: OVERSEAS VESSELS ENTERED AND CLEARED VIA OTHER AUSTRALIAN STATES, 1976-77(*a*)

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Entered	number	1,205	1,321	697	486	430	351	45	4,535
	'000 net tons	9,267	9,149	4,936	2,994	3,939	1,535	401	32,220
Cleared	number	1,464	1,379	532	415	275	375	62	4,502
	'000 net tons	11,403	9,561	3,254	2,816	2,710	1,701	394	31,839

(*a*) Excludes vessels of 200 net tons and under.

Total interstate movements. The following table shows, for each State and the Northern Territory, the total number of vessels entered from and cleared for other States during the year 1976–77, together with the aggregate net tonnage. Total interstate movement includes details of vessels entered or cleared interstate direct, interstate via ports in the same State and overseas via other States.

INTERSTATE MOVEMENT: TOTAL VESSELS ENTERED AND CLEARED, STATES AND NORTHERN TERRITORY, 1976-77(*a*)

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Entered	number	1,952	2,562	1,149	922	628	1,520	116	8,849
	'000 net tons	15,137	15,680	7,909	5,379	6,378	5,118	620	56,220
Cleared	number	2,200	2,649	964	800	492	1,513	138	8,756
	'000 net tons	16,936	16,479	6,048	4,803	5,191	5,065	640	55,162

(*a*) Excludes vessels of 200 net tons and under.

Australian trading vessels

The following table shows particulars of all Australian trading vessels of 150 gross tons or more engaged in the regular overseas, interstate or intrastate services at 30 June 1979.

AUSTRALIAN TRADING VESSELS OF 150 GROSS TONS OR MORE 30 JUNE 1979

(*Source:* Department of Transport)

Vessels	*Number*	*Deadweight tonnes*	*Gross tons*
Interstate vessels—			
Australian owned and registered	56	1,171,872	774,042
Overseas owned, Australian registered, engaged in Australian coastal trade	2	49,657	31,584
Overseas owned and registered on charter, engaged in Australian coastal trade	10	678,846	368,551
Australian owned, overseas registered	2	8,801	7,199
Total interstate fleet	*70*	*1,909,176*	*1,181,376*
Intrastate vessels	22	292,623	179,425
Total coastal trading vessels	*92*	*2,201,799*	*1,360,801*
Overseas trading vessels—			
Australian registered	15	766,430	480,817
Overseas registered	5	143,031	89,986
Total overseas trading vessels	*20*	*909,461*	*570,803*
Total Australian trading vessels	**112**	**3,111,260**	**1,931,604**

Harbour boards and trusts

For detailed information *see* the individual State Year Books.

Shipping at principal ports

The following table shows the total volume of shipping—overseas and coastal—entering the principal ports of Australia.

TOTAL SHIPPING: VESSELS ENTERED AT PRINCIPAL PORTS(*a*)

	1974–75		*1975–76*		*1976–77*	
Port of entry	*Number*	*Net tons*	*Number*	*Net tons*	*Number*	*Net tons*
		'000		*'000*		*'000*
New South Wales—						
Sydney	2,925	16,481	2,409	15,584	2,249	16,125
Botany Bay	366	3,286	288	3,501	279	3,891
Newcastle	1,377	9,093	934	8,172	869	8,512
Port Kembla	804	7,401	734	7,473	693	7,151
Victoria—						
Melbourne	2,608	13,059	2,369	12,245	2,517	13,410
Geelong	420	2,936	371	2,794	337	2,741
Westernport	386	4,720	423	5,089	435	5,437
Queensland—						
Brisbane	1,246	8,573	1,219	8,519	1,229	8,720
Bundaberg	90	467	83	557	97	658
Cairns	176	696	149	748	147	767
Gladstone	429	7,005	388	6,206	404	6,675
Hay Point	159	4,459	150	4,416	162	5,292
Mackay	225	1,056	245	1,124	252	1,144
Rockhampton	80	299	97	354	67	244
Townsville	328	1,700	363	1,909	353	2,122
Weipa	285	5,337	232	4,277	240	4,576
South Australia—						
Adelaide	1,108	4,087	1,140	4,053	942	3,628
Port Lincoln	158	809	140	667	118	525
Port Pirie	146	863	157	976	133	831
Port Stanvac	68	1,238	97	1,605	96	1,639
Thevenard	100	430	66	295	63	278
Whyalla	311	2,369	283	2,060	204	1,558
Western Australia—						
Fremantle(*b*)	1,345	10,699	1,318	10,754	1,313	11,007
Albany	127	855	125	743	126	779
Bunbury	154	937	111	799	171	1,637
Geraldton	109	811	144	883	141	975
Yampi Sound	130	1,577	117	1,130	102	954
Port Hedland	639	15,749	561	13,066	478	12,146
Dampier	532	12,487	540	12,591	492	13,218
Port Walcott	173	4,716	171	4,538	143	5,053
Tasmania—						
Hobart	505	1,594	440	1,546	383	1,333
Burnie	344	1,398	366	1,569	366	1,688
Devonport	422	1,247	361	1,144	405	1,312
Launceston	413	2,314	386	2,211	421	2,651
Port Latta	40	716	32	692	38	734
Northern Territory—						
Darwin	134	670	148	678	135	623
Groote Island	96	700	106	770	96	731
Gove	129	1,852	97	1,491	106	1,608

(*a*) Excludes vessels of 200 net tons and under. (*b*) Includes Kwinana.

Shipping cargo

Overseas and interstate cargo

The following table shows a summary of overseas and interstate cargo discharged and loaded during the past six years.

CARGO DISCHARGED AND LOADED: AUSTRALIA

('000)

	Overseas cargo				*Interstate cargo*			
	Discharged		*Loaded*		*Discharged*		*Loaded*	
Year	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
1971–72 . .	19,505	5,865	108,047	3,161	25,801	3,087	26,387	2,799
1972–73 . .	20,167	6,084	132,362	3,555	27,364	3,136	28,006	2,927
1973–74 . .	23,055	7,641	150,471	3,071	28,570	3,224	29,471	3,034
1974–75 . .	21,893	8,029	164,866	2,926	27,864	3,199	28,454	3,143
1975–76 . .	19,718	7,170	156,133	2,488	28,371	2,978	28,241	2,937
1976–77 . .	20,554	7,775	164,899	2,219	28,762	2,179	28,477	1,999

The following table shows details of container and non-container cargo discharged and loaded at Australian ports during 1976–77.

OVERSEAS CONTAINER AND NON-CONTAINER CARGO DISCHARGED AND LOADED BY PORT, 1976–77

('000)

	Discharged				*Loaded*			
	Container		*Non-container*		*Container*		*Non-container*	
Port	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
New South Wales—								
Sydney	933	1,380	1,640	987	812	512	4,875	184
Newcastle . . .	7	19	930	5	11	5	10,622	1
Total . . .	*940*	*1,399*	*2,570*	*992*	*823*	*517*	*15,497*	*185*
Victoria—								
Melbourne . . .	622	2,481	1,066	1,213	1,208	493	791	219
Geelong	—	—	1,137	1	—	—	1,576	3
Total . . .	*622*	*2,481*	*2,203*	*1,214*	*1,208*	*493*	*2,367*	*222*
Queensland—								
Brisbane	78	308	840	431	363	42	1,724	82
Gladstone . . .	—	—	716	—	—	—	8,067	2
Weipa	—	—	59	—	—	—	5,275	—
Total . . .	*78*	*308*	*1,615*	*431*	*363*	*42*	*15,066*	*84*
South Australia—								
Adelaide	21	54	437	363	51	56	457	251
Total . . .	*21*	*54*	*437*	*363*	*51*	*56*	*457*	*251*
Western Australia—								
Fremantle . . .	35	198	4,753	252	164	44	5,838	95
Dampier	—	—	257	—	—	—	36,870	—
Port Hedland . .	—	—	71	2	—	—	27,441	—
Total . . .	*35*	*198*	*5,081*	*254*	*164*	*44*	*70,149*	*95*
Tasmania—								
Hobart	2	—	120	12	6	—	143	—
Launceston . . .	—	—	100	8	—	—	1,603	8
Total . . .	*2*	—	*220*	*20*	*6*	—	*1,746*	*8*
Other Ports	12	—	6,719	61	61	13	56,941	210
Total all Ports	**1,710**	**4,440**	**18,845**	**3,335**	**2,676**	**1,165**	**162,223**	**1,055**

The following table shows details of overseas and interstate cargo discharged and loaded at principal Australian ports during 1976–77.

CARGO DISCHARGED AND LOADED AT PRINCIPAL PORTS, 1976–77

('000)

	Overseas cargo				*Interstate cargo*			
	Discharged		*Loaded*		*Discharged*		*Loaded*	
Port	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
New South Wales—								
Sydney	2,572	2,367	5,687	696	2,052	148	152	202
Botany Bay	1,787	—	168	—	3,979	—	177	—
Newcastle	937	24	10,633	6	3,392	—	532	—
Port Kembla	492	2	6,474	—	6,587	—	1,564	—
Other	11	—	756	—	46	—	13	—
Total New South Wales	*5,799*	*2,393*	*23,718*	*701*	*16,055*	*148*	*2,437*	*203*
Victoria—								
Melbourne	1,688	3,694	1,999	712	2,448	202	2,002	190
Geelong	1,137	2	1,576	3	421	—	1,106	—
Portland	163	1	243	—	19	—	11	—
Westernport	132	—	1,421	—	413	—	9,242	—
Total Victoria	*3,119*	*3,696*	*5,239*	*715*	*3,301*	*202*	*12,361*	*190*
Queensland—								
Brisbane	918	740	2,087	123	3,385	3	98	24
Cairns	39	—	453	1	13	4	13	2
Gladstone	716	—	8,067	2	91	—	565	—
Hay Point	—	—	12,489	—	—	—	155	—
Mackay	62	1	642	—	52	—	321	—
Townsville	446	33	1,345	6	139	—	211	—
Weipa	59	—	5,275	—	—	—	55	—
Other	2	—	1,309	—	58	—	244	—
Total Queensland	*2,242*	*774*	*31,669*	*133*	*3,737*	*7*	*1,662*	*26*
South Australia—								
Port Adelaide	459	417	508	307	681	5	297	3
Ardrossan	—	—	147	—	—	—	401	—
Port Lincoln	65	—	447	—	43	—	3	—
Port Pirie	5	—	561	—	223	—	160	—
Port Stanvac	1,684	—	109	—	505	—	482	—
Whyalla	109	—	1,318	—	1,119	—	1,343	—
Other	23	—	428	—	—	—	503	—
Total South Australia	*2,344*	*417*	*3,519*	*307*	*2,572*	*5*	*3,190*	*3*
Western Australia—								
Fremantle	4,788	450	6,002	139	1,209	8	1,116	35
Albany	78	—	741	42	21	—	—	—
Bunbury	130	—	1,964	53	—	—	96	—
Dampier	257	—	36,870	—	—	—	—	—
Geraldton	17	—	920	49	—	—	—	—
Port Hedland	71	2	27,441	—	2	1	5,816	—
Port Walcott	367	—	13,521	14	—	—	—	—
Yampi Sound	2	—	2,685	—	11	—	69	—
Other	98	2	2,012	47	36	—	215	—
Total Western Australia	*5,810*	*455*	*92,157*	*344*	*1,279*	*9*	*7,312*	*35*
Tasmania—								
Hobart	123	12	149	—	661	230	439	198
Burnie	63	3	168	—	230	290	363	296
Devonport	16	—	34	11	155	628	221	600
Launceston	100	8	1,603	8	714	538	151	371
Port Latta	19	—	2,112	—	16	—	10	—
Other	18	—	298	—	1	58	8	60
Total Tasmania	*339*	*23*	*4,363*	*18*	*1,777*	*1,743*	*1,192*	*1,525*
Northern Territory—								
Darwin	305	18	6	—	21	34	9	2
Groote Island	19	—	1,245	—	6	13	305	3
Gove	578	—	2,983	—	14	17	8	12
Total Northern Territory	*901*	*18*	*4,234*	—	*41*	*64*	*322*	*17*
Australia	**20,554**	**7,775**	**164,899**	**2,219**	**28,762**	**2,179**	**28,477**	**1,999**

Overseas cargo according to major trade areas and type of service

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the major trade areas of the world, by type of shipping service (i.e. liner or tramp, bulkship and tanker).

OVERSEAS CARGO LOADED AND DISCHARGED IN AUSTRALIA: MAJOR TRADE AREAS BY TYPE OF SERVICE

('000)

	Liners(a)		*Tramps, bulkships, tankers*		*All vessels*	
Major trade areas	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
1976–77–						
Overseas cargo loaded–						
North America and Hawaii	491	195	5,859	1	6,350	196
South America	56	26	506	–	562	26
Europe (including U.S.S.R.)	1,102	445	29,902	32	31,004	479
Africa	118	44	1,609	21	1,727	65
Asia–						
Eastern Asia	1,340	283	114,455	13	115,794	297
Other Asia	854	394	6,217	398	7,072	793
Total Asia	2,194	677	120,671	412	122,866	1,089
Papua New Guinea, New Zealand and Pacific Islands	701	304	1,672	46	2,373	350
Indian Ocean Islands and Antarctic Area	1	–	16	15	17	15
Overseas cargo discharged–						
North America and Hawaii	628	993	1,708	487	2,336	1,480
South America	15	18	73	–	87	18
Europe (including U.S.S.R.)	564	1,944	799	175	1,362	2,120
Africa	60	51	123	1	183	52
Asia–						
Eastern Asia	481	1,842	2,185	1,324	2,666	3,166
Other Asia	254	654	11,612	76	11,866	730
Total Asia	735	2,496	13,797	1,400	14,531	3,896
Papua New Guinea, New Zealand and Pacific Islands	456	147	1,125	52	1,581	199
Indian Ocean Islands and Antarctic Area	–	–	470	9	470	9
Total loaded–						
1974–75	4,643	2,503	160,224	423	164,866	2,926
1975–76	4,766	1,989	151,366	499	156,133	2,488
1976–77	**4,663**	**1,691**	**160,236**	**528**	**164,899**	**2,219**
Total discharged–						
1974–75	2,229	5,679	19,663	2,350	21,893	8,029
1975–76	2,407	5,459	17,311	1,711	19,718	7,170
1976–77	**2,458**	**5,651**	**18,097**	**2,125**	**20,554**	**7,775**

(*a*) Cargo and passenger liners.

Overseas cargo according to country of registration of vessels

The following table shows the total overseas cargo, discharged and loaded combined, according to the country in which the vessels were registered.

OVERSEAS CARGO DISCHARGED AND LOADED, BY COUNTRY OF REGISTRATION OF VESSELS: AUSTRALIA

('000)

Country of registration of vessels	*1974–75*		*1975–76*		*1976–77*	
	Tonnes	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
Australia	367	503	715	655	2,427	763
Belgium-Luxembourg	578	–	592	–	969	1
Canada	2,565	80	1,244	–	1,047	–
China—excl. Taiwan Province	1,653	–	1,860	–	1,912	–
—Taiwan Province only	812	106	992	57	1,256	48
Denmark	2,382	221	704	156	1,517	206
Germany, Federal Republic of	5,465	619	3,342	540	3,718	756
Greece	9,780	132	9,598	101	9,830	187
Hong Kong	618	41	1,656	140	1,850	163
India	3,590	74	2,417	73	5,060	62
Japan	64,576	1,830	67,783	1,571	74,506	1,544
Korea, Republic of	367	18	714	7	1,077	6
Liberia	28,018	288	29,042	311	31,903	519
Norway	18,399	538	12,950	419	11,188	420
Panama	6,021	245	6,619	333	7,802	456
Singapore, Republic of	1,719	406	2,061	366	1,928	510
Sweden	3,121	465	1,982	580	1,694	462
United Kingdom	23,845	2,995	19,452	2,593	16,272	2,481
U.S.S.R.	1,031	126	1,988	189	1,305	178
Other	11,862	2,259	10,140	1,567	8,196	1,232
Grand total	**186,769**	**10,945**	**175,851**	**9,658**	**185,453**	**9,994**

Vessels registered in Australia

The following table shows the number and gross tonnage of trading vessels of 150 tons and over registered in Australia at 30 June 1979, classified according to: (i) year of construction; (ii) type of trade in which the vessels were engaged; and (iii) vessels built in Australian or in overseas shipyards.

AUSTRALIAN-REGISTERED TRADING VESSELS, 30 JUNE 1979(*a*)

(*Source:* Department of Transport)

Year of construction	*Overseas and interstate vessels*		*Intrastate vessels*		*Built in Australian yards*		*Built overseas*		*Total*	
	No.	*Gross tons*	*No.*	*Gross tons*	*No.*	*Gross tons*	*No.*	*Gross tons*	*No.*	*Gross tons*
1974 and earlier	44	553,744	17	175,379	43	549,435	18	179,688	61	729,123
1975	6	81,544	2	570	5	32,771	3	49,343	8	82,114
1976	5	167,700	–	–	3	28,267	2	139,433	5	167,700
1977	7	244,028	1	2,851	3	46,991	5	199,888	8	246,879
1978	7	141,665	–	–	1	25,849	6	115,816	7	141,665
1979	4	97,762	–	–	–	–	4	97,762	4	97,762
Total registered in Australia	**73**	**1,286,443**	**20**	**178,800**	**55**	**683,313**	**38**	**781,930**	**93**	**1,465,243**

(*a*) Excludes vessels of 150 net tons and under.

Miscellaneous

Shipping casualties

Courts of Marine Inquiry are constituted by a magistrate assisted by skilled assessors, and, when necessary, are held at the principal port in each State and at Launceston (Tasmania). Such courts have power to deal with the certificates of officers who are found at fault.

RAILWAYS

Government railways

Government railways in Australia operate in all States and Territories and provide an important means of transportation. In 1976–77 a total of 109.9 million tonnes of freight was carried, an increase of 128.0 per cent over the 48.2 million tonnes carried in 1956–57. However, in the same twenty-year period, the number of passengers carried (mostly within the suburban areas of Sydney and Melbourne) declined by 33.5 per cent from 499 million in 1956–57 to 332 million in 1976–77 (excluding Perth metropolitan passenger journeys). The number of train-kilometres run during 1976–77 (151 million) was a decrease of 1.3 per cent since 1956–57 (153 million), which is an indication of the trend towards heavier train loads with the more powerful motive power now available. Since the introduction of the first mainline diesel-electric locomotives in 1950, their numbers have increased greatly until at 30 June 1977 there were 1,480 throughout Australia. Diesel-electric locomotives during 1976–77 hauled 98 million train-kilometres, while electric and other locomotives hauled 5 million train-kilometres.

Data required to compile government railway statistics at the national level for the year ended 30 June 1978 were not available in time (November 1979) to be included in this issue of the Year Book. This delay in the receipt of data was due mainly to the Australian National Railway's (ANR) assuming full responsibility for the operations of the non-metropolitan railways in South Australia and the Tasmanian railway system on 1 March 1978. This necessitated changes to previously used accounting procedures. As a result, the ANR were not able to provide, within the specified timetable, 1977–78 statistical data to compile national railway statistics.

It is expected that details of the operations of all government railways during 1977–78 will be available for inclusion in the next issue of the publication, *Rail, Bus and Air Transport, Australia* (9201.0).

Railway development

Details outlining railway development in Australia are given in Year Book No. 61, page 380. The following table sets out the route-kilometres of government railways in each State and Territory from 1972 to 1977. Details prior to 1972 can be found in Year Book No. 61, page 381.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, 1972 TO 1977

(Kilometres)

30 June—	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1972 . . .	10,129	6,357	9,560	5,829	6,846	805	789	8	40,323
1973 . . .	10,129	6,357	9,560	5,904	6,897	830	789	8	40,474
1974 . . .	10,130	6,329	9,472	5,905	6,922	851	789	8	40,406
1975 . . .	10,131	6,331	9,780	5,909	6,805	851	789	8	40,604
1976 . . .	10,130	6,325	9,844	5,915	6,893	849	789	8	40,753
1977 . . .	10,130	6,251	9,796	5,911	6,895	864	278	8	40,133

One feature of the Australian government railways is the variety of gauges to which they are built. There are three principal gauges: 'broad' (1,600 mm), 'standard' (1,435 mm), and 'narrow' (1,067 mm). Extensive route-kilometres of 1,067 mm gauge railway were built in areas where traffic volumes were initially known to be small and where it was imperative to minimise the costs of construction. The following table shows the route-kilometres open in each State and Territory at 30 June 1977 according to gauge.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE, 30 JUNE 1977

(Kilometres)

Gauge	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1600 mm	(*a*)328	(*b*)5,912	..	2,533	..	..	..	..	8,773
1435 mm	(*c*)9,802	325	111	(*d*)1,824	(*e*)2,108	..	..	(*f*)8	14,178
1067 mm	..	..	9,685	(*g*)1,554	(*h*)4,787	864	278	..	17,168
762 mm	..	14	..	..	..	..	..	..	14
610mm	..	..	..	..	..	..	..	..	..
Total	**10,130**	**6,251**	**9,796**	**5,911**	**6,895**	**864**	**278**	**8**	**40,133**
Per 1,000 of population	2.05	1.65	4.58	4.63	5.76	2.10	2.64	0.04	2.85
Per 1,000 square kilometre	12.65	27.46	5.67	6.01	2.73	12.74	0.21	3.33	5.23

(*a*) Portion of Victorian System. (*b*) Excludes 325 kilometres of 1600 mm gauge line which almost parallels the 1435 mm gauge line between Melbourne and the New South Wales border. (*c*) Includes 47 kilometres of 1435 mm gauge line from Broken Hill to Cockburn. (*d*) Comprises 1,123 kilometres of Trans-Australian and 350 kilometres of the Central Australia Railway Systems, and includes 351 kilometres from Port Pirie to Cockburn. (*e*) Includes 730 kilometres of the Trans-Australian Railway System. (*f*) Australian Capital Territory Railway System. (*g*) Includes 591 kilometres of the Central Australia Railway System. (*h*) Excludes 141 kilometres of 1435 mm/1067 mm dual gauge line which is included in the 1435 mm gauge line.

Government railway systems

Prior to 1 July 1975 there were six separate State Government railway systems and the Commonwealth Railways system. In 1975, however, Commonwealth and State Government legislation was enacted for the transfer to the Commonwealth Government of the Tasmanian Government Railways and the non-metropolitan South Australian railways. These transfers took effect from 1 July 1975 and the Australian National Railways Commission came into existence on that date to control the two transferred systems and the former Commonwealth Railways. The agreements provided for an 'interim period' during which the States retained responsibility for administration, maintenance and operation of the railways, but subject to directions from the Australian National Railways Commission (ANRC).

Essentially, the 'interim period' allowed time for negotiations to determine the terms and conditions of service to apply to State employees on transfer to the ANRC. On 1 March 1978, the ANRC assumed full responsibility for the transferred systems. As the former Commonwealth Railways included routes in South Australia and Western Australia, and the Victorian system extended into New South Wales, the system route-kilometres shown in the following table do not represent route-kilometres within each State and Territory (these are shown in the previous table). The route-kilometres of each system open for traffic, according to gauge, at 30 June 1977 is shown in the following table.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE AND SYSTEM 30 JUNE 1977

(Kilometres)

	Gauge					
System	*1600 mm*	*1435 mm*	*1067 mm*	*762 mm*	*610 mm(e)*	*Total*
New South Wales	..	(*a*)9,755	..	..	..	9,755
Victoria	(*b*)6,240	325	..	14	..	6,579
Queensland	..	(*c*)111	9,685	..	..	9,796
South Australia	2,533	398	963	..	..	3,894
Western Australia	..	1,378	(*d*)4,787	..	..	6,165
Tasmania	..	..	864	..	..	864
National	..	2,211	869	..	..	3,080
Australia	**8,773**	**14,178**	**17,168**	**14**	..	**40,133**

(*a*) Includes 446 route-kilometres which are electrified. (*b*) Excludes 325 route-kilometres of 1600 mm gauge line which almost parallels the 1435 mm gauge line between Melbourne and Murray River. Includes 421 route-kilometres which are electrified. (*c*) Operated by the Public Transport Commission of New South Wales which is recouped for the cost of the operation. (*d*) Excludes 141 kilometres of 1435 mm/1067 mm dual guage line which is included in the 1435 mm gauge line. (*e*) Innisfail and Mourilyan Tramways sold to private enterprise in May 1977.

The six government owned railway systems are operated by the Public Transport Commission of New South Wales (PTC), Queensland Government Railways (QR), Victorian Railways (VR), Western Australian Government Railways (WAGR), the State Transport Authority of South Australia (STA), and Australian National Railways (ANR).

The PTC (1435 mm gauge) operates lines radiating southwest and west from Sydney, northwest from Newcastle, and north from Sydney to Brisbane. QR (1067 mm gauge) operates a coastal line from Brisbane to Cairns, with long branches inland from the major ports. VR (1600 mm gauge, with the 1435 mm gauge Albury to Melbourne line) operates a network throughout Victoria and extending into New South Wales. WAGR (1067 mm gauge) operates in south-western West Australia, and also operates standard gauge (1435 mm) from Perth to Kalgoorlie, Esperance and Leonora. The STA (1600 mm gauge) operates railways in the Adelaide metropolitan area only. ANR operates the non-metropolitan railways in South Australia (1600 mm and 1067 mm gauge), including the isolated Eyre Peninsula system (1067 mm gauge), the Tasmanian main line from Hobart to Launceston, with its branches (1067 mm gauge) and the railways (1435 mm gauge) from Kalgoorlie to Broken Hill, Queanbeyan to Canberra, Port Augusta to Marree, and (1067 mm gauge) Marree to Alice Springs. The Darwin to Larrimah line (1067 mm gauge), remains open, but no services have been operated since 1 July 1976.

See also details in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0), and Year Book No. 58, page 348.

Developments in standardisation

The Commonwealth Government has enacted legislation for the construction of a standard gauge connection between Adelaide and the Trans-Australian Railway. Work on this project has been deferred. When the link is completed, all mainland State capital cities will be connected to the standard gauge network.

The Commonwealth Government has also enacted legislation for the construction of a reliable, all-weather standard gauge railway between Tarcoola, on the Trans-Australian Railway, and Alice Springs to replace the existing flood-prone narrow gauge section of the Central Australia Railway between Marree and Alice Springs. The line is expected to be completed by the end of 1980.

Operations of Government railway systems

Particulars of train-kilometres, passenger journeys, passenger-kilometres, freight-tonnes carried, and freight tonne-kilometres included in this section refer only to operations for which revenue is received.

Summary of operations

GOVERNMENT RAILWAYS: SUMMARY OF OPERATIONS, SYSTEMS, 1976-77

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
Train-kilometres ('000)(*a*)—								
Suburban passenger	20,489	14,423	3,320	3,957	2,154	..	..	44,342
Country passenger	9,950	7,654	4,033	2,009	1,207	237	1,284	26,374
Goods(*b*)	26,601	11,412	22,853	4,777	9,485	1,430	3,850	80,407
Total	**57,039**	**33,489**	**30,206**	**10,742**	**12,846**	**1,667**	**5,134**	**151,125**
Passenger journeys ('000)(*c*)—								
Suburban	181,115	98,252	29,296	12,230	n.a.	16	..	n.a.
Country(*d*)	3,306	4,402	1,758	636	248	124	187	10,659
Total	**184,421**	**102,654**	**31,054**	**12,866**	**n.a.**	**140**	**(*e*)187**	**n.a.**
Passenger-kilometres ('000)(*f*)-								
Suburban	n.a.	1,601,885	n.a.	n.a.	n.a.	129	..	n.a.
Country	n.a.	627,125	n.a.	150,904	108,470	15,484	n.a.	n.a.
Total	**n.a.**	**2,229,010**	**n.a.**	**n.a.**	**n.a.**	**15,613**	**n.a.**	**n.a.**
Freight—								
Tonnes carried ('000)(*d*)	33,777	10,971	34,237	6,402	19,003	1,644	3,909	109,943
Net tonne-kilometres (million)(*g*)	9,320.2	3,042.2	10,286.6	1,834.0	4,532.5	247.5	2,732.4	31,995.4

(*a*) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purposes. (*b*) Includes mixed train-kilometres. (*c*) Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys. (*d*) Inter-system traffic is included in the total for each system over which it passes. (*e*) Passenger journeys continuing over both the Trans-Australian and Central Australia Railway Systems are counted twice. In 1976-77 these numbered 4,583. (*f*) One passenger travelling one kilometre. (*g*) One tonne carried one kilometre.

Rolling stock

GOVERNMENT RAILWAYS: ROLLING STOCK INCLUDED IN CAPITAL ACCOUNT

(Number)

	Locomotives						
System and date	*Diesel-electric*	*Electric*	*Other(a)*	*Total*	*Coaching stock(b)*	*Goods stock*	*Service stock*
30 June 1977							
New South Wales . . .	470	39	31	540	2,675	14,933	1,614
Victoria	258	35	99	392	2,582	16,841	1,034
Queensland	429	–	86	515	1,158	20,899	2,253
South Australia . . .	151	–	4	155	393	7,035	542
Western Australia . . .	184	–	21	205	372	10,747	446
Tasmania	50	–	21	71	55	1,925	169
National	104	–	–	104	142	3,305	545
Australia	**1,646**	**74**	**262**	**1,982**	**(c)7,615**	**(c)75,694**	**(c)6,604**
30 June—							
1976	1,590	75	326	1,991	7,592	78,405	7,256
1975	1,573	75	332	1,980	7,624	78,810	7,614
1974	1,563	76	372	2,011	7,870	79,086	7,723
1973	1,539	76	378	1,993	7,982	79,913	7,800
1972	1,489	76	435	2,000	8,178	81,135	8,033

(*a*) Includes non-passenger-carrying diesel power vans and steam locomotives. (*b*) includes all brake vans and non-powered electric train stock. (*c*) Includes jointly-owned stock.

Train-kilometres

Train-kilometres by type of service and motive power

GOVERNMENT RAILWAYS: TRAIN-KILOMETRES 1976-77

('000 kilometres)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
Type of service—								
Passenger—suburban ..	20,489	14,423	3320	3957	2154	..	..	44,342
Passenger—country . .	9,950	7,654	4,033	2,009	1,207	237	1,284	26,374
Goods(*a*)	26,601	11,412	22,853	4,777	9,485	1,430	3,850	80,407
Total	*57,039*	*33,489*	*30,206*	*10,742*	*12,846*	*1,667*	*5,134*	*151,125*
Type of motive power—								
Hauled by diesel-electric locomotives	31,783	15,701	27,443	5,900	10,319	1,662	5,125	97,932
Hauled by electric and other locomotives(*b*)	3,146	1,475	443	6	1	–	–	5,070
Powered coaching stock	22,111	16,314	2,320	4,836	2,526	5	9	48,121
Total	**57,039**	**33,489**	**30,206**	**10,742**	**12,846**	**1,667**	**5,134**	**151,125**

(*a*) Includes mixed train-kilometres. (*b*) Includes steam locomotives.

Total train-kilometres

TRAIN-KILOMETRES

('000 kilometres)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
1971–72	61,176	33,175	29,165	10,018	12,410	1,767	6,013	153,724
1972–73	59,941	33,058	29,523	10,024	11,669	1,960	5,859	152,035
1973–74	58,255	33,345	28,542	10,313	12,617	2,154	5,966	151,192
1974–75	55,661	33,876	30,114	10,189	12,866	1,983	5,936	150,624
1975–76	54,943	33,818	30,813	10,304	12,856	1,748	5,595	150,078
1976–77	57,039	33,489	30,206	10,742	12,846	1,667	5,134	151,125

Freight traffic

Freight carried

GOVERNMENT RAILWAYS: FREIGHT CARRIED(*a*), SYSTEMS

('000 tonnes)

Commodity and year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
1976-77—								
Grain	5,217	2,456	1,657	863	3,454	8	–	13,655
Other agricultural produce	925	435	2,423	100	236	7	23	4,150
Coal, coke and briquettes	16,126	837	21,769	6	1,179	159	1,942	42,017
Other minerals(*b*)	2,999	512	3,939	1,716	10,247	22	80	19,514
Iron and steel	1,867	675	–	412	–	7	–	2,961
Fertilisers	291	593	173	298	525	62	3	1,945
Cement	444	903	161	67	92	273	49	1,989
Timber	104	247	97	55	271	305	23	1,102
Containers	2,662	669	834	721	–	108	–	4,994
Livestock	181	310	761	298	71	2	123	1,747
All other commodities	2,959	3,337	2,422	1,866	2,928	692	1,666	15,871
Total	**33,777**	**10,971**	**34,237**	**6,402**	**19,003**	**1,644**	**3,909**	**109,943**
1975-76	31,234	10,803	33,118	6,139	17,647	1,610	3,804	104,355
1974-75	33,476	11,057	30,208	6,738	16,153	1,731	4,102	103,465
1973-74	32,651	11,370	25,401	6,607	14,839	1,828	4,270	96,966
1972-73	31,044	11,475	24,666	5,781	13,706	1,554	4,255	92,481
1971-72	32,310	11,795	19,267	6,014	13,867	1,299	4,119	88,671

(*a*) Inter-system traffic is included in the total for each system (including each National railway) over which it passes. (*b*) Includes sand and gravel.

Freight net tonne-kilometres

GOVERNMENT RAILWAYS: FREIGHT NET TONNE-KILOMETRES, SYSTEMS

(Million)

Commodity and year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
1976-77—								
Grain	2,049.9	731.4	(*a*)	148.5	901.3	1.5	–	(*a*)
Other agricultural produce	494.3	135.8	(*a*)	27.1	96.5	1.6	32.6	(*a*)
Coal, coke and briquettes	1,380.6	138.8	(*a*)	3.0	179.4	31.0	495.7	(*a*)
Other minerals(*b*)	623.1	100.3	(*a*)	366.3	1,773.7	3.7	20.2	(*a*)
Iron and steel	1,248.4	213.8	(*a*)	173.2	–	1.2	–	(*a*)
Fertilisers	173.0	154.3	(*a*)	92.9	194.2	19.0	3.9	(*a*)
Cement	149.5	113.5	(*a*)	23.9	43.6	23.1	19.0	(*a*)
Timber	91.6	79.5	(*a*)	17.8	91.3	26.0	32.6	(*a*)
Containers	1,385.6	282.0	(*a*)	258.3	–	25.5	–	(*a*)
Livestock	100.3	94.8	413.0	73.7	23.4	–	62.6	767.8
All other commodities	1,624.0	997.8	9,873.6	649.3	1,229.0	114.9	2,065.7	16,554.3
Total	**9,320.2**	**3,042.2**	**10,286.6**	**1,834.0**	**4,532.5**	**247.5**	**2,732.4**	**31,995.4**
1975-76	8,566.9	3,071.4	10,101.2	1,686.6	4,542.4	231.8	2,609.0	30,809.3
1974-75	8,782.3	3,091.4	9,118.0	1,756.9	4,262.4	273.3	2,507.4	29,791.7
1973-74	8,642.5	3,126.2	7,855.1	1,753.1	4,142.5	277.9	2,532.0	28,329.3
1972-73	8,117.6	3,164.8	7,613.1	1,588.4	3,686.2	210.6	2,201.1	26,581.7
1971-72	8,615.2	3,264.2	6,315.1	1,583.0	3,447.8	169.7	2,007.9	25,402.9

(*a*) Not available separately, included with 'All other commodities'. (*b*) Includes sand and gravel.

Finance

GOVERNMENT RAILWAYS: GROSS EARNINGS(*a*), SYSTEMS, 1976-77
($'000)

	N.S.W.(b)	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
Coaching—								
Suburban passenger	52,677	38,151	6,607	3,207	..	..	..	n.a.
Country passenger	19,513	14,182	5,962	3,138	3,451	n.a.	6,461	n.a.
Other	9,699	9,265	4,367	1,574	2,834	n.a.	820	n.a.
Total coaching	*81,889*	*61,598*	*16,936*	*7,919*	*6,285*	*516*	*7,281*	*182,423*
Freight (goods and livestock)—								
Grain	(*c*)	20,165	17,435	5,133	26,394	58	–	n.a.
Other agricultural produce	(*c*)	4,267	14,358	678	4,382	77	440	n.a.
Coal, coke and briquettes	(*c*)	5,081	97,970	51	6,625	857	4,915	n.a.
Other minerals(*d*)	(*c*)	2,458	29,406	8,169	29,378	179	336	n.a.
Iron and steel	(*c*)	4,404	–	2,639	–	96	–	n.a.
Fertilisers	(*c*)	3,311	3,219	1,398	4,194	619	47	n.a.
Cement	(*c*)	4,944	2,532	449	1,298	1,159	326	n.a.
Timber	(*c*)	2,857	1,752	364	3,100	920	403	n.a.
Containers	(*c*)	4,056	6,818	4,353	–	643	–	n.a.
Livestock	(*c*)	2,260	16,248	2,704	819	51	1,395	n.a.
All other commodities	(*c*)	35,351	50,207	14,837	36,887	3,506	39,419	n.a.
Total freight	*244,746*	*89,157*	*239,945*	*40,775*	*113,077*	*8,164*	*47,282*	*783,146*
Miscellaneous	25,240	12,757	5,679	5,591	17,960	100	8,028	75,355
Grand total	**351,875**	**163,512**	**262,561**	**54,284**	**137,323**	**8,780**	**62,590**	**1,040,925**

(*a*) Excludes Government grants. (*b*) Includes State Co-ordination Tax Contribution. (*c*) Not available separately. (*d*) Includes sand and gravel.

GOVERNMENT RAILWAYS: WORKING EXPENSES, SYSTEMS, 1976-77
($'000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.(a)*	*National*	*Aust.*
Maintenance of way and works	84,903	(*b*)	82,803	(*a*)24,737	(*a*)30,868	6,448	12,722	242,481
Motive power(*c*)	182,445	(*b*)	109,632	(*a*)31,584	(*a*)32,618	7,978	18,502	382,759
Traffic	132,184	261,504	80,831	(*a*)30,114	51,968	5,830	12,469	574,900
Other charges	170,741	39,728	25,778	17,194	16,569	3,084	8,934	282,028
Total	**570,272**	**301,232**	**299,044**	**(*a*)103,629**	**(*a*)132,024**	**23,340**	**52,628**	**1,482,169**

(*a*) Includes provision of reserves for depreciation. (*b*) Not available separately; included with traffic. (*c*) Includes maintenance of rolling stock.

GOVERNMENT RAILWAYS: GROSS EARNINGS, WORKING EXPENSES, AND NET EARNINGS, SYSTEMS

($'000)

Year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
			GROSS EARNINGS					
1971-72	266,268	112,685	124,782	35,386	63,634	6,123	29,208	638,086
1972-73	254,070	111,833	137,745	35,085	63,600	6,835	31,241	640,408
1973-74	262,691	115,613	149,844	39,531	78,480	7,674	37,217	691,050
1974-75	291,373	129,942	183,687	47,950	106,844	8,266	41,367	809,429
1975-76	318,763	147,292	230,492	49,688	130,850	8,048	54,618	939,751
1976-77	351,875	163,512	262,561	54,284	137,323	8,780	62,590	1,040,925
			WORKING EXPENSES					
				(*a*)	(*a*)	(*a*)	(*a*)	
1971-72	263,484	138,722	119,743	46,521	63,748	10,391	31,540	674,149
1972-73	298,180	156,120	133,384	52,320	68,223	11,829	34,487	754,543
1973-74	349,897	188,599	162,101	60,747	81,916	15,598	44,423	903,281
1974-75	415,234	243,393	227,925	80,466	103,696	19,973	55,847	1,146,534
1975-76	472,188	271,940	265,662	91,352	118,607	22,087	64,279	1,306,115
1976-77	570,272	301,232	299,044	103,629	132,024	23,340	52,628	1,482,169
			NET EARNINGS(*b*)					
1971-72	2,784	-26,034	5,038	-11,135	-115	-4,267	-2,333	-36,043
1972-73	-44,111	-44,287	4,361	-17,236	-4,622	-4,994	-3,247	-114,135
1973-74	-87,206	-72,986	-12,257	-21,216	-3,436	-7,924	-7,206	-212,231
1974-75	-123,861	-113,451	-44,238	-32,516	3,148	-11,707	-14,479	-337,104
1975-76	-153,425	-124,648	-35,170	-41,664	12,243	-14,039	-9,661	-366,364
1976-77	-218,397	-137,720	-36,483	-49,345	5,299	-14,560	9,962	-441,244

(*a*) Includes provision of reserves for depreciation. (*b*) Excess of gross earnings over working expenses as shown in this table.

GOVERNMENT RAILWAYS: SURPLUS OR DEFICIT, SYSTEMS, 30 JUNE 1977

($'000)

System	*Net earnings —excess of gross earnings over working expenses*	**Plus** *grants and other earnings payable to railways*				**Less** *other expenses charged to railways*					*Surplus (+) or deficit (−)*
		State Government grants	*Road motor earnings*	*Other*	*Total*	*Interest and exchange*	*Sinking fund*	*Road motor expenses (a)*	*Other*	*Total*	
New South Wales	-218,397	(*b*)6,411	–	–	6,411	53,265	7,897	–	(*c*)1,479	62,641	-274,627
Victoria	-137,720	(*d*)74	92	–	166	–	–	522	–	522	-138,077
Queensland	-36,483	–	–	–	–	53,448	–	–	(*e*)1,111	54,559	-91,042
South Australia	-49,345	–	401	–	401	1,323	–	659	186	2,168	-51,113
Western Australia	5,299	–	988	–	988	14,885	–	2,495	(*f*)35	17,416	-11,129
Tasmania	-14,560	–	–	20	20	–	–	–	–	–	-14,539
National	9,962	–	–	–	–	–	–	–	–	–	+9,962
Australia	**-441,224**	**6,485**	**1,481**	**20**	**7,986**	**122,921**	**7,897**	**3,676**	**2,811**	**137,306**	**-570,565**

(*a*) Includes interest and exchange. (*b*) Grants to meet losses on country developmental lines, and the employer liability to the Government Railways Superannuation Account. (*c*) Loan management and loan flotation expenses. (*d*) Kerang-Koondrook tramway recoup from Treasury. (*e*) Demolished assets written off. (*f*) Australian currency revaluation adjustment.

Employment, salaries and wages

GOVERNMENT RAILWAYS: AVERAGE NUMBER OF EMPLOYEES (EXCLUDING CONSTRUCTION STAFF) AND SALARIES AND WAGES PAID(*a*), 1976-77

	N.S.W.	*Vic.(b)*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*National*	*Aust.*
Salaried staff	8,972	5,299	4,085	1,707	2,168	350	725	23,306
Wages staff	31,001	19,110	20,435	5,634	7,610	1,489	3,098	88,377
Total staff	**39,973**	**24,409**	**24,520**	**7,341**	**9,778**	**1,839**	**3,823**	**111,683**
Salaries and wages paid . . . $'000	404,610	233,137	238,206	77,722	91,419	16,343	36,259	1,097,697

(*a*) Excludes salaries and wages paid to road motor staff. (*b*) Includes construction staff.

Non-government railways

The Australian non-government railways covered in this section are those which operate outside industrial estates, harbour precincts, mines and quarries with a route distance exceeding two kilometres.

The figures in the following table have been compiled from information supplied to the Bureau of Transport Economics by the various railway operators. All operators provided details of tonnes consigned and most provided details of tonne-kilometres performed. In a few cases the tonne-kilometre figures have been estimated by the Bureau of Transport Economics using the advised average length of haul.

TRAFFIC TASK PERFORMED BY AUSTRALIAN NON-GOVERNMENT RAILWAYS 1972-73 TO 1977-78

Year	*Iron ore railways*	*Sugar tramways*	*Other non-government railways*	*Total non-government railways*	*Non-government as a percentage of total tonnes consigned/ tonne-kilometres performed*
	TONNES CONSIGNED ('000)				Per cent
1972-73	67,723	16,060	16,990	100,773	55
1973-74	84,867	16,442	19,970	121,279	58
1974-75	95,666	17,163	21,180	134,009	59
1975-76	83,837	18,844	17,847	120,528	56
1976-77	86,622	20,066	20,271	126,959	54
1977-78	85,898	20,268	17,859	124,025	n.y.a.
	TONNE-KILOMETRES (million)				
1972-73	19,501	259	272	20,032	43
1973-74	25,890	264	336	26,490	48
1974-75	29,559	275	341	30,175	50
1975-76	25,748	302	298	26,348	46
1976-77	26,646	322	369	27,337	46
1977-78	27,723	325	324	28,372	n.y.a.

TRAM, BUS, AND FERRY SERVICES

Systems in operation

Trams and trolley-buses. At 30 June 1978 tram services were in operation in Melbourne, Victoria and in Adelaide, South Australia. The last of the trolley-bus services ceased to operate in Australia with its replacement by buses in Perth, Western Australia, on 29 August 1969. Regular tram services ceased to operate in Ballarat on 19 September 1971 and in Bendigo on 16 April 1972. However services are operated in both cities, on an irregular basis, but generally at holiday periods, as a tourist attraction.

In many parts of Australia private lines used for special purposes in connection with the timber, mining, sugar, or other industries are often called tramvays, but they are more properly railways, and the traffic on them has nothing in common with that of the street tram used for the conveyance of passengers.

Buses. Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal bus services located in all State capital cities; Canberra, Australian Capital Territory; Newcastle, New South Wales; Rockhampton, Queensland; Fremantle and the Eastern Goldfields area, Western Australia; Launceston and Burnie, Tasmania; Darwin, Northern Territory; and for country road services operated by the Victorian Railways, Public Transport Commission of New South Wales and the Western Australian Government Railways. Particulars of bus services under the control of private operators for the States of New South Wales, Victoria, Queensland and South Australia are given in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0) for years prior to 1976–77.

Ferries. Ferry passenger services are operated in the following States: New South Wales, at Sydney and Newcastle; Western Australia, on the Swan River at Perth; Tasmania, on the Mersey River at Devonport and on the Derwent River at Hobart; and the Brisbane River at Brisbane. Control is exercised by both government authorities and private operators. Particulars of the operations of these services are given in previous issues of this Year Book and in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0). There are no ferry passenger services in South Australia or Victoria.

Government and municipal tram and bus services

Because of the development in recent years of the various forms of public road transport under the control of single authorities and the gradual replacement of tram services by bus services, it is not possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL STATES AND TERRITORIES, 1977-78

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Route-kilometres at 30 June—										
Tram(*a*)	kilometres	..	217	..	11	..	..	..	..	228
Bus	"	1,046	258	722	868	8,413	461	85	796	12,649
Vehicle-kilometres—										
Tram	'000	..	24,185	..	770	..	..	..	..	24,955
Bus	"	63.468	12.874	20.452	35,075	42,171	9,872	949	12,800	197,660
Rolling stock at 30 June—										
Tram	number	..	748	..	26	..	..	..	..	774
Bus	"	1.738	305	576	817	923	300	31	360	5,050
Passenger journeys—										
Tram	'000	..	101.296	..	1,285	..	..	..	..	102,581
Bus	"	196,773	19,339	50,100	56,069	57,519	19,517	796	13,874	413,987
Gross revenue(*b*)—										
Tram and bus	$'000	43.643	33,741	15,975	16.073	16,607	3.547	514	4,357	134,457
Working expenses(*c*)—										
Tram and bus	$'000	104,946	53,947	22,435	33,280	31,271	9,844	928	10,630	267,281
Net revenue—										
Tram and bus	$'000	–61,303	–20,206	–6,460	–17,207	–14,664	–6,297	–414	–6,273	–132,824
Employees at 30 June—										
Tram and bus	number	6,781	4,708	1,473	(d)n.a.	2,208	625	112	706	n.a.
Accidents—										
Tram and bus(*e*)—										
Persons killed	number	7	9	–	2	1	2	–	1	22
Persons injured	"	n.a.	636	294	243	476	36	–	42	(*f*)1,727

(*a*) Gauge 1435 mm throughout. (*b*) Excludes government grants. (*c*) Includes provision of reserves for depreciation, etc., where possible. (*d*) The State Transport Authority assumed responsibility for metropolitan transport services from 1 March 1978. As a result separate employment details for bus and tram (i.e. excluding rail) are no longer available. (*e*) Excludes accidents to employees. (*f*) Excludes New South Wales. Minus sign (–) denotes deficit.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL

		1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Route-kilometres at 30 June—							
Tram	kilometres	228	227	228	228	228	228
Bus	”	10,890	11,780	11,859	11,217	12,142	12,649
Vehicle kilometres—							
Tram	’000	25,119	24,555	24,516	24,945	24,940	24,955
Bus	”	172,866	179,702	188,062	190,131	192,003	197,660
Rolling stock at 30 June—							
Tram	number	734	734	729	765	765	774
Bus	”	4,442	4,761	4,914	4,995	4,897	5,050
Passenger journeys—							
Tram	’000	106,333	110,791	112,329	107,375	104,188	102,581
Bus	”	410,139	417,513	(*a*)413,844	403,058	404,228	413,987
Gross revenue(*b*)—							
Tram and bus	$’000	95,171	105,149	112,690	121,420	123,740	134,457
Working expenses(*c*)—							
Tram and bus	$’000	117,598	146,655	187,787	208,241	239,107	267,281
Net revenue—							
Tram and bus	$’000	–22,426	–41,506	–75,098	–86,821	–115,366	–132,824
Employees at 30 June—							
Tram and bus	number	17,256	17,549	17,829	17,846	18,276	n.a.
Accidents—							
Tram and bus(*d*)—							
Persons killed	number	30	10	14	22	25	22
Persons injured	”	2,732	2,587	(*e*)1,245	(*e*)1,535	(*e*)1,609	(*e*)1,727

(*a*) Excludes Northern Territory. (*b*) Excludes government grants. (*c*) Includes provision of reserve for depreciation, etc., where possible. (*d*) Excludes accidents to employees. (*e*) Excludes New South Wales. Minus sign (–) denotes deficit.

MOTOR VEHICLES

Arrangements for the registration of motor vehicles and the licensing of drivers and riders are not uniform throughout Australia, since they are the function of a separate authority or authorities in each State and Territory.

Tables in this section include vehicles owned by private individuals, local government authorities, State Governments, and the Australian Government (excluding those belonging to the defence services).

Survey of motor vehicle usage

A survey was conducted throughout Australia in late 1976 by the Australian Bureau of Statistics for the purpose of gathering information on the usage of motor vehicles. Previous surveys were conducted in 1963 and 1971. The owners of approximately 53,000 vehicles other than buses were approached for information relating to the usage of their vehicles over the twelve months ended 30 September 1976. The framework from which the sample was drawn was obtained from the motor vehicle registration authorities in all States and Territories. The survey was based on respondents' recollection of their usage of the selected vehicles over their period of ownership during the survey year.

The main purpose of the survey was to determine the total distance travelled by vehicles, classified according to area and purpose of travel. Information was also obtained from the survey on: (i) tonne-kilometres; (ii) average load carried; (iii) vehicle usage (i.e. for hire and reward, ancillary or other); (iv) main type of operation; (v) fuel consumption; (vi) occupant-kilometres; and (vii) driver characteristics.

The following table shows, for Australia, total annual kilometres travelled for the twelve months ended 30 September 1976 classified by vehicle type and purpose of travel. The percentage standard errors (S.E.%) indicate the extent to which the estimates can vary by chance because only a sample and not the total vehicle population was enumerated. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained from a comparable complete enumeration, and about nineteen chances in twenty that the difference will be less than two standard errors. For example, if an estimate of 3,000 million kilometres has a standard error of 5 per cent (i.e. 150 million kilometres), then there would be approximately two chances in three that a comparable complete collection would give a figure within the range of 2,850 million kilometres to 3,150 million kilometres and about nineteen chances in twenty that the figure would be within the range of 2,700 million kilometres to 3,300 million kilometres.

TOTAL ANNUAL KILOMETRES BY VEHICLE TYPE AND PURPOSE OF TRAVEL, TWELVE MONTHS ENDED 30 SEPTEMBER 1976 (FINAL)

Type of vehicle	*Laden business*		*Unladen business*		*Total business (a)*		*Paid to and from work*		*Unpaid to and from work*		*Private*		*Total*	
	million kilo-metres	*S.E. %*	*million kilo-metres*	*S.E. %*	*million kilo-metres*	*S.E. %*	*million kilo-metres*	*S.E. %*	*million kilo-metres*	*S.E. %*	*million kilo-metres*	*S.E. %*	*million kilo-metres*	*S.E. %*
Cars and station wagons	..	..	..	..	15,584.3	3.8	2,434.5	6.4	16,196.7	2.7	44,304.0	1.4	78,531.0	1.2
Motor cycles	..	..	..	..	171.8	13.9	46.7	21.1	610.8	7.9	811.9	8.1	1,641.3	5.4
Utilities and panel vans	4,097.9	5.2	1,919.9	8.1	6,368.5	4.5	335.7	19.4	1,730.8	7.1	3,854.8	6.2	12,289.9	2.6
Rigid trucks	3,769.2	1.5	1,731.8	2.1	5,505.6	1.5	51.2	10.1	195.1	6.3	278.7	7.4	6,031.8	1.4
Articulated trucks	1,395.6	0.9	577.6	1.1	1,974.7	0.8	4.9	11.2	21.0	4.9	4.3	14.4	2,005.0	0.8
Other truck type vehicles	..	..	..	..	223.5	15.1	2.6	32.3	29.6	12.6	164.5	9.4	420.2	8.7
Total	**9,262.7**	**2.4**	**4,229.3**	**3.8**	**29,828.5**	**2.2**	**2,875.6**	**5.9**	**18,783.9**	**2.4**	**49,418.2**	**1.4**	**100,919.2**	**1.0**

(*a*) Includes the total kilometres travelled for business purposes of cars, station wagons, motor cycles and utilities and panel vans predominantly used for private purposes. The dissection of business travel into laden/unladen was not sought for these vehicles.

Motor vehicles on register

Details of motor vehicles on the register are compiled by up-dating motor vehicle census data from information made available by the various motor vehicle registration authorities in the States and Territories. Censuses of motor vehicles have been conducted in respect of 31 December 1955 and 1962, and 30 September 1971 and 1976. At these census dates considerably greater information concerning the particulars shown in the tables following is available. Final detailed results of the 1976 census have been published in separate census publications for each State and Territory and for Australia.

MOTOR VEHICLE CENSUS: 30 SEPTEMBER 1976 (FINAL)
('000)

State or Territory	*Motor cars and station wagons*	*Utilities*	*Panel vans*	*Trucks*		*Other truck type vehicles*	*Buses*	*Motor cycles*	*Total (a)*
				Rigid	*Articu-lated*				
New South Wales	1,712.9	131.8	108.0	115.7	13.1	7.8	11.2	95.5	2,196.0
Victoria	1,456.2	104.5	47.0	117.8	9.8	4.9	7.3	51.9	1,799.4
Queensland	723.4	129.4	42.1	43.8	5.9	3.2	3.6	72.8	1,024.0
South Australia	509.2	41.4	19.6	36.3	5.2	4.1	3.2	31.8	650.7
Western Australia	442.6	55.5	34.2	43.8	3.4	3.8	3.3	28.5	615.2
Tasmania	158.7	17.0	8.3	10.4	1.2	1.1	1.7	6.5	204.8
Northern Territory	19.3	8.0	2.0	2.0	0.3	0.2	0.2	2.7	34.8
Australian Capital Territory	79.9	4.6	4.7	2.5	0.1	0.1	0.9	3.7	96.6
Total	**5,102.2**	**492.3**	**265.9**	**372.2**	**39.0**	**25.1**	**31.4**	**293.4**	**6,621.5**

(*a*) Excludes tractors, plant and equipment, caravans and trailers.

MOTOR VEHICLES ON REGISTER, BY TYPE OF VEHICLE AUSTRALIA
('000)

30 June	*Motor cars and station wagons*	*Utilities, trucks, panel vans, other truck type vehicles and buses*	*Total (excludes motor cyles)*	*Motor cycles*
1973	4,361.6	1,041.1	5,402.7	210.4
1974	4,604.0	1,090.1	5,694.1	258.6
1975	4,858.5	1,140.2	5,998.7	277.7
1976	5,072.8	1,215.0	6,287.8	293.0
1977	5,243.0	1,279.6	6,522.6	295.5
1978	5,462.2	1,359.9	6,822.1	292.4

MOTOR VEHICLES(*a*) ON REGISTER PER 1,000 OF POPULATION STATES AND TERRITORIES

30 June	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1973	389.7	408.3	396.1	428.1	432.9	429.6	321.0	421.8	403.8
1974	402.9	427.4	408.7	442.4	449.3	442.0	329.5	427.6	418.7
1975	419.8	447.2	413.1	467.1	470.7	461.8	334.5	433.7	435.6
1976	426.8	466.6	445.4	482.2	493.4	481.1	315.6	436.8	451.9
1977	435.1	470.1	463.9	498.7	523.7	494.9	328.0	456.3	463.4
1978	446.7	488.0	485.8	505.4	546.1	515.0	375.1	436.0	478.8

(a) Excludes motor cycles, tractors, plant and equipment, caravans and trailers.

Registrations of new motor vehicles

Particulars of registrations of new motor vehicles are shown by type of vehicle in monthly bulletins, and by type and make of vehicle in quarterly and annual bulletins of Motor Vehicle Registrations.

In these statistics 'registrations' mean registrations processed by the motor vehicle registration authorities in the States and Territories during the period.

A revised classification of motor vehicles has been adopted for publication of statistics of new motor vehicle registrations from 1 July 1976. The principal difference between this classification and that which it replaces involves the categories utilities, panel vans, trucks and other truck type vehicles. The principle of accepting vehicle-type data as recorded by the registration authority has also been accepted. Consequently, figures shown from July 1976 are not strictly comparable with data for previous periods.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE

State or Territory and year	*Motor cars*	*Station wagons*	*Utilities*	*Panel vans*	*Trucks*		*Other truck type vehicles*	*Buses*	*Total (excludes motor cycles)*	*Motor cycles*
					Rigid	*Articulated*				
1978-79–										
New South Wales . . .	136,497	29,698	11,774	13,057	12,446	1,693	659	1,006	206,830	13,706
Victoria	103,530	20,628	7,073	4,840	10,063	1,054	504	703	148,395	7,136
Queensland	56,329	12,695	13,474	5,248	2,834	733	161	438	91,912	8,126
South Australia	33,285	6,459	2,575	2,209	2,588	455	224	404	48,199	3,700
Western Australia . . .	32,486	8,396	3,866	4,872	4,423	333	165	366	54,907	2,713
Tasmania	11,606	2,322	1,191	901	894	155	156	104	17,329	892
Northern Territory . . .	1,531	617	1,146	325	213	78	3	32	3,945	431
Australian Capital Territory	7,075	1,496	482	500	317	94	21	100	10,085	562
Australia	**382,339**	**82,311**	**41,581**	**31,952**	**33,778**	**4,595**	**1,893**	**3,153**	**581,602**	**37,266**
1977-78	359,472	72,967	45,946	40,312	35,034	4,000	2,474	3,712	563,917	38,049
1976-77	365,624	81,478	(*a*)48,420	(*a*)39,532	(*a*)36,051	(*a*)4,752	(*a*)2,749	3,205	581,811	50,321
1975-76	380,713	73,924	43,500	38,296	39,574	4,139	474	3,743	584,363	60,017
1974-75	433,244	69,476	45,151	36,647	32,675	3,545	409	3,040	624,187	67,563
1973-74	407,983	57,007	41,848	29,352	29,878	3,753	398	2,465	572,684	85,249
1972-73	373,876	55,863	41,144	28,136	29,176	3,364	365	2,215	534,139	65,551

(a) Not directly comparable with previous figures.

Drivers' and riders' licences

At 30 June 1979, the numbers of licences in force to drive or ride motor vehicles were: New South Wales, 2,886,503; Victoria, 2,072,172; South Australia, 741,388; Western Australia, 675,033; Tasmania, 222,217; Northern Territory, 56,990; Australian Capital Territory, 129,498. Particulars are not available for Queensland.

ROAD TRAFFIC ACCIDENTS

Compulsory fitting and use of seat belts and protective helmets in Australia

Information on the compulsory fitting and use of seat belts and protective helmets in Australia is given in Year Book No. 61, page 395.

Accidents involving casualties, persons killed, persons injured

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(*a*): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1978

				Per 100,000 of mean population			*Per 10,000 motor vehicles registered(b)*		
State or Territory	*Number of accidents*	*Persons killed*	*Persons injured*	*Number of accidents*	*Persons killed*	*Persons injured*	*Number of accidents*	*Persons killed*	*Persons injured*
New South Wales	29,451	1,384	40,875	588	28	816	126	6	176
Victoria	14,957	869	20,377	392	23	534	79	5	108
Queensland	8,094	612	10,850	374	28	501	72	5	96
South Australia	8,160	291	11,209	634	23	870	119	4	164
Western Australia	7,224	345	9,346	591	28	765	105	5	135
Tasmania	1,641	106	2,274	397	26	550	76	5	105
Northern Territory	716	68	980	638	61	873	161	15	220
Australian Capital Territory	802	30	1,051	372	14	487	79	3	103
Australia	**71,045**	**3,705**	**96,962**	**499**	**26**	**681**	**100**	**5**	**137**

(*a*) Accidents reported to the police which occurred in public thoroughfares and which resulted in death within thirty days or in bodily injury to an extent requiring surgical or medical treatment. (*b*) Average number of motor vehicles (excluding tractors, plant and equipment) on register.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(*a*): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED

									Total		
Year	*N.S.W*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Number*	*Per 100,000 of mean population*	*Per 10,000 motor vehicles registered(b)*
Accidents involving casualties—											
1973	29,308	14,485	8,643	9,267	5,404	1,479	711	854	70,151	524	125
1974	29,853	12,542	8,086	9,469	4,742	1,393	575	813	67,473	496	113
1975	28,217	12,514	8,241	8,793	5,104	1,496	554	869	65,788	478	105
1976	27,393	12,680	7,814	8,090	5,287	1,603	582	833	64,282	462	98
1977	27,943	14,659	7,696	7,922	6,224	1,603	634	868	67,549	480	99
1978	29,451	14,957	8,094	8,160	7,224	1,641	716	802	71,045	499	100
Persons killed—											
1973	1,230	935	638	329	358	105	55	29	3,679	27	7
1974	1,275	806	589	382	334	111	44	31	3,572	26	6
1975	1,288	910	635	339	304	122	64	32	3,694	27	6
1976	1,264	938	569	307	308	108	51	38	3,583	26	5
1977	1,268	954	572	306	290	112	47	29	3,578	25	5
1978	1,384	869	612	291	345	106	68	30	3,705	26	5
Persons injured—											
1973	39,294	20,011	11,660	12,625	7,377	2,103	1,012	1,122	95,204	712	169
1974	40,429	17,539	10,627	12,725	6,277	1,911	788	1,042	91,338	672	153
1975	38,141	17,437	11,019	12,020	6,832	2,137	789	1,124	89,499	650	142
1976	37,327	17,653	10,405	11,082	7,059	2,323	814	1,145	87,808	631	134
1977	38,407	19,672	10,002	10,781	8,353	2,343	882	1,176	91,616	651	134
1978	40,875	20,377	10,850	11,209	9,346	2,274	980	1,051	96,962	681	137

(*a*) *See* footnote (*a*) to previous table. (*b*) See footnote (*b*) to previous table.

ROADS*

An article dealing with the development of roads in Australia is given in Year Book, No. 60, pages 385–93.

Summary of roads used for general traffic

Proclaimed or declared roads. The table following is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30 June 1978. The central road authority in each State assumes responsibility under the Act for the whole, or a proportion, of the cost of construction and/or maintenance of these roads, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, consideration is given, in general, to the following points: availability of funds; whether the road is, or will be, within one of several classes of main trunk routes; the value of the roads as connecting links between centres of population or business; whether the district is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main roads. The absence of a particular class in any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes (e.g. insufficiency of funds, man-power or materials), construction or maintenance may not keep pace with gazettal of roads, and, therefore, the condition of a road may not match its status.

PROCLAIMED OR DECLARED ROADS: LENGTHS, STATES, 30 JUNE 1978

(Kilometres)

Class of road	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
State Highways	(*a*)10,598	7,305	10,354	13,552	7,722	1,960	108,982
Trunk roads	7,103	14,555	152		7,583	–	
Ordinary main roads	18,400		8,558			1,139	
Total main roads	*36,102*	*21,860*	*19,064*	*13,552*	*15,305*	*3,099*	*108,982*
Secondary roads	(*b*)287	–	(*c*)13,029	–	8,734	290	22,340
Development roads	3,486	–	8,028	–	–	157	11,671
Tourist roads	426	797	–	–	–	150	1,373
Other roads	2,480	(*d*)1,031	–	–	–	–	3,511
Total other roads	*6,679*	*1,828*	*21,057*	–	*8,734*	*597*	*38,895*
Grand total	**42,781**	**23,688**	**40,121**	**13,552**	**24,039**	**3,696**	**147,877**

(*a*) Includes 127 kilometres of freeways and tollways. (*b*) Metropolitan only. (*c*) Includes mining access roads, farmers' roads and tourist tracks. (*d*) Forest roads.

Total roads. The following table represents an attempt to classify all the roads open for general traffic in Australia, at the latest dates available, according to States and Territories and to certain broad surface groups. The figures in the table for the States are obtained from the Deputy Commonwealth Statistician in each State, and are derived mainly from local government sources.

ALL ROADS OPEN FOR GENERAL TRAFFIC LENGTHS, STATES AND TERRITORIES, 30 JUNE 1978

(Kilometres)

Surface of roads	*N.S.W.(a)*	*Vic.*	*Qld*	*S.A.*	*W.A.(b)*	*Tas.*	*N.T.*	*A.C.T.*	*Total(a)*
Bitumen or concrete	70,277	58,691	44,121	18,088	32,593	7,381	4,975	1,788	237,914
Gravel, crushed stone or other improved surface	66,616	45,353	28,981	21,192	32,367	14,097	1,872	352	210,830
Formed only	39,188	27,380	60,193	24,225	46,276	749	6,143	42	368,088
Cleared only	13,092	25,277	29,050	37,024	52,077		7,372	–	
Total	**189,173**	**156,701**	**162,345**	**100,529**	**163,313**	**22,227**	**20,362**	**2,182**	**816,832**

(*a*) Excludes 15,397 kilometres of road dedicated but not trafficable. (*b*) Figures as at 30 June 1977. Figures as at 30 June 1978 are not yet available.

Expenditure on roads and bridges

Primary responsibility for the construction and maintenance of roads and bridges rests with State and local authorities. For detailed information *see* the individual State Year Books.

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* Includes bridges.

National Association of Australian State Road Authorities

The National Association of Australian State Road Authorities (NAASRA) was established in 1934. The present member authorities are: Department of Main Roads, New South Wales; Country Roads Board, Victoria; Main Roads Department, Queensland; Highways Department, South Australia; Main Roads Department, Western Australia; Department of Main Roads, Tasmania; Northern Territory Department of Transport and Works; Commonwealth Department of Housing and Construction.

The Association's objectives are to provide a central organisation where, by co-operative effort, a uniform approach to the improvement, planning and development of the Australian road system can be achieved. National standards for road and bridge construction and maintenance and improved administrative and financial control methods are developed by committees of experienced staff from the authorities, with secretarial services provided by a small staff located in Sydney.

This Secretariat arranges publication of the policies and standards which are widely used by road authorities, local government and universities; co-operates with the Standards Association of Australia on the preparation of national codes of practice; and acts as an Australian centre for contact with overseas road bodies and for the circulation of standards published by them.

Road research is a continuing concern, and in 1959 the Association decided to set up and finance a separate national centre to conduct road research on behalf of its members. The Australian Road Research Board (ARRB) was duly established in 1960 as a company controlled by a Board consisting of the NAASRA members.

The Association regularly confers with the Commonwealth Department of Transport, the Bureau of Transport Economics and the Australian Transport Advisory Council on major road policies. As part of the Commonwealth Government's external aid program and in conjunction with the Department of Foreign Affairs, member authorities of the Association conduct engineering training courses for experienced engineers from African and Asian countries.

The Association is a member of the Permanent International Association of Road Congresses (PIARC) and of the Road Engineering Association of Asia and Australasia (REAAA).

Australian Road Research Board

The Australian Road Research Board (ARRB) is a non-profit-making company founded in 1960 by the National Association of Australian State Road Authorities (NAASRA), and now located at Vermont in Victoria. It is financed by Federal and State Government Road Authorities whose permanent heads form ARRB's Board of Directors. The Executive Director, a full-time employee of the Board, is responsible for administering the Directors' policies.

The ARRB regularly undertakes and arranges road and road transport research over a comprehensive range of subjects and disseminates results to appropriate organisations, engineers and scientists involved in the design, location, construction, upkeep and use of roads. The Board also relies on advice from its Technical Committees in Bituminous Surfacings, Road Pavements, Human Factors, Local Government Engineering, Traffic Engineering and Transport Planning, and its Steering Committee of senior advisors.

The ARRB disseminates road research information through its major conferences, first held in 1962, and regular symposia, and through its publications which include the *Conference Proceedings*, a quarterly journal *Australian Road Research* and various reports arising out of its many research projects. The Board also maintains a unique library of road literature and operates an expanding computer-based information service called *Australian Road Index* which collects and collates all Australian road research findings. It also operates the International Road Research Documentation (IRRD) data base of OECD in Australia.

AIR TRANSPORT

Department of Transport

Commonwealth control of air transport in Australia is exercised by the Department of Transport. The Department's jurisdiction covers Australia and areas of the Indian and Pacific Oceans. Details about air transport control and operations are given in the annual reports to the Commonwealth Parliament by the Minister for Transport.

International activity

International organisations. The International Civil Aviation Organization (ICAO) had a membership of 144 nations in June 1979. Australia has continued its position as a member of the Council, which it has held since ICAO was established in 1947.

International agreements. Australia had air service agreements in force with twenty-five countries at 30 June 1979. Under these agreements Australia is granted rights to operate services between Australia to and through the countries in question; these rights are exercised by Australia's international airline Qantas. In return, the designated airlines of the other countries which are partners to these agreements are granted traffic rights in Australia. Australia also had air service arrangements granting traffic rights with two other countries at 30 June 1979.

International air services. At 30 June 1979, twenty-three overseas international airlines were operating regular scheduled air services to Australia. These were: Air-India (India), Air Nauru (Nauru), Air New Zealand (New Zealand), Air Niugini (New Guinea), Air Pacific (Fiji), Alitalia (Italy), British Airways Overseas Division (Britain), Canadian Pacific Air Lines (Canada), Cathay Pacific (Hong Kong), Continental Airlines (United States of America), Deutsche Lufthansa (Federal Republic of Germany), Garuda (Indonesia), Japan Air Lines (Japan), JAT (Yugoslavia), KLM Royal Dutch Airlines (Netherlands), Singapore International Airlines (Singapore), Merpati Nusantara Airlines (Indonesia), Pan American World Airways (United States of America), Philippines Air Lines (Philippines), South African Airways (Republic of South Africa), Thai International (Thailand), Malaysian Airways (Malaysia), and Union de Transport Aeriens (France). Qantas, Australia's international airline, operates a fleet of aircraft of which one is a Hawker Siddeley 125, and seventeen are Boeing 747 jet aircraft. All shares in Qantas Airways Limited are owned by the Commonwealth Government.

International operations. The table following shows particulars of international airline traffic during 1977–1978 moving into and out of an area which embraces Australia and Norfolk Island. These figures do not include traffic between Australia and Norfolk Island.

AIR TRANSPORT: INTERNATIONAL AIRLINE TRAFFIC TO AND FROM AUSTRALIA(*a*), 1977-78

Type of traffic	*Number of flights*	*Passengers*	*Freight*	*Mail*
Traffic to Australia—				
Qantas Airways Limited	4,792	703,566	20,624	749
Other airlines	7,263	845,388	33,667	4,769
All airlines	**12,055**	**1,548,954**	**54,291**	**5,518**
Traffic from Australia—				
Qantas Airways Limited	4,819	664,740	13,452	2,117
Other airlines	7,208	823,266	21,487	1,025
All airlines	**12,027**	**1,488,006**	**34,940**	**3,142**

(*a*) Australian mainland and Norfolk Island.

Statistics covering the operations of Australia's regular overseas services are shown in the following table. These operations include all stages of Qantas flights linking Australia with overseas countries.

AIR TRANSPORT: OPERATIONS OF AUSTRALIA'S REGULAR OVERSEAS SERVICES

		1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Hours flown	number	87,548	90,293	86,231	85,839	79,499	77,539
Kilometres flown	'000	64,823	69,062	65,045	65,221	61,586	65,625
Passengers—							
Embarkations	number	1,054,929	1,295,457	1,418,541	1,488,858	1,551,679	1,569,374
Passenger-kilometres	'000	6,775,195	8,653,357	9,434,345	10,541,870	11,318,928	12,029,554
Freight—							
Tonnes uplifted	tonnes	23,239	27,328	29,974	33,417	34,380	39,986
Tonne-kilometres	'000	150,342	195,078	213,748	243,911	258,748	301,253
Mail—							
Tonnes uplifted	tonnes	2,791	2,912	2,950	2,997	3,205	2,971
Tonne-kilometres	'000	22,891	25,071	24,043	26,217	27,788	27,618

Regular air services within Australia

Interstate services. The majority of scheduled interstate services with passenger and all-freight aircraft are provided by two airlines only: the private enterprise airline Ansett Airlines of Australia (a division of Ansett Transport Industries (Operations) Pty Ltd, which is a subsidiary of Ansett Transport Industries Ltd); and the Commonwealth Government, Australian National Airlines Commission trading as Trans-Australia Airlines (TAA). All principal routes are competitive, with both airlines providing equal capacities in accordance with legislation passed by the Commonwealth Parliament. The two principal Acts which establish the legislative basis of this competition are the *Airlines Agreements Act* 1952 and the *Airlines Equipment Act* 1958. The Airlines Equipment Act established the machinery for the achievement and maintenance of comparable, but not necessarily identical, aircraft fleets between TAA and Ansett Airlines of Australia, and was designed to prevent the provision of excess aircraft capacity. The Airlines Agreement Act established the basis of control of the two-airline competitive system. In addition to purely interstate services, both Ansett Airlines of Australia and Trans-Australia Airlines operate intrastate routes, most of which are non-competitive.

At 30 June 1979, the Ansett Airlines of Australia fleet included ten Boeing 727s, twelve DC-9s, eleven Friendships, three Electra freighters and three helicopters. At the same date, Trans-Australia Airlines operated a fleet of ten Boeing 727s, twelve DC-9s, twelve Friendships and four Twin Otter DHC-6s.

Intrastate services. In addition to the intrastate services operated by Ansett Airlines of Australia and Trans-Australia Airlines there are a number of smaller regional airlines operating from Sydney (Ansett Airlines of New South Wales and East-West Airlines), Adelaide (Ansett Airlines of South Australia), Perth (MacRobertson Miller Airlines), and Darwin (Connair). With the exception of Connair, which provides regular service to outback homesteads and communities, all of these are concerned primarily with traffic moving to and from their respective capital cities. Except for the independently-owned East-West Airlines and Connair, all regional airlines are divisions of Ansett Transport Industries (Operations) Pty Ltd. The larger aircraft used by these regional airlines are F28 Fellowships and F27 Friendships.

Commuter services. These are regular public transport flights by charter firms with small single and twin-engined aircraft operating to fixed and published timetables. They are not airline services and primarily provide air links between towns and country areas which are not served by the major airlines. At 30 June 1979 forty-seven charter operators were operating commuter services in Australia. Details of the operations of these commuter services are excluded from the statistics shown in this section.

Scheduled domestic airline services. Statistics of all regular airline services are set out in the following table.

AIR TRANSPORT: OPERATIONS OF REGULAR INTERNAL SERVICES AUSTRALIA(*a*)

		1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Hours flown	number	256,435	281,611	282,706	270,928	258,151	279,410
Kilometres flown	'000	118,566	131,829	135,455	130,100	122,933	134,720
Passengers—							
Embarkations	number	7,502,892	8,857,654	9,393,104	9,315,141	9,348,697	10,288,959
Passenger-kilometres	'000	5,684,791	6,812,300	7,374,126	7,280,993	7,329,665	8,181,028
Freight—							
Tonnes uplifted	tonnes	94,425	112,654	107,813	106,061	108,108	120,890
Tonne-kilometres	'000	81,519	98,294	97,914	97,499	96,315	106,471
Mail—							
Tonnes uplifted	tonnes	10,114	9,916	9,613	9,708	9,636	11,307
Tonne-kilometres	'000	9,787	9,272	9,023	9,113	9,148	10,726

(*a*) Includes flights of all Australian-owned airlines, with the exception of those of Qantas Airways Limited, between airports located within Australia. The domestic carrier, East-West Airlines, commenced services between Australia and Norfolk Island in March 1977 and particulars of these flights are included from that time. Prior to March 1977, Australia-Norfolk Island flights were serviced by Qantas and details of those flights were included with statistics of regular overseas services.

Internal airline passenger embarkation and disembarkation. The statistics set out in the next table have been compiled by aggregating all internal airline passenger traffic loaded and unloaded at each airport. They include passengers on flights between Australia and Norfolk Island. At ports where through-passengers transfer between flights, such passengers are counted as embarking as well as disembarking passengers.

INTERNAL AIRWAYS PASSENGER EMBARKATIONS AND DISEMBARKATIONS AT PRINCIPAL AUSTRALIAN AIRPORTS

Airport	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Sydney	4,162,659	4,679,513	4,953,051	4,788,086	4,846,610	5,273,436
Melbourne	3,226,294	3,876,877	4,037,585	4,125,932	4,149,390	4,552,462
Brisbane	1,658,043	2,078,812	2,218,780	2,119,538	2,075,381	2,252,888
Adelaide	1,154,384	1,374,645	1,494,675	1,454,917	1,618,299	1,729,030
Canberra	813,712	934,069	981,815	901,837	881,668	966,388
Perth	536,057	646,699	696,527	629,530	704,041	792,873
Hobart	282,676	382,636	375,769	403,759	403,069	437,948
Townsville	231,665	315,782	320,153	329,831	322,498	353,522
Coolangatta	243,994	278,044	300,854	314,780	320,606	409,151
Launceston	244,982	294,694	287,741	304,784	309,341	353,596
Cairns	204,414	251,847	266,620	275,439	270,147	307,525
Mackay	159,408	196,951	213,972	249,196	244,025	254,954
Darwin	141,696	182,319	241,003	208,806	200,833	225,052

General aviation activity, which covers all non-airline operations such as charter, aerial work and private flying, has grown rapidly throughout Australia in recent years and is an important sector of the Australian aviation industry. Hours flown by general aviation during 1978–79 were estimated at 1.53 million, approximately 1.2 per cent more than the previous year.

Aerodromes

The number of aerodromes throughout Australia and its external territories at 30 June 1979 was 444. Eighty-one were owned by the Commonwealth Government and 363 by local authorities and private interests. Capital expenditure on aerodrome and building construction was $5.9 million in 1978-79. Maintenance expenditure on Commonwealth Government-owned aerodromes during 1978-79 was $6.245 million, and development and maintenance grants to licensed aerodromes participating in the Local Ownership Plan totalled $3.354 million.

Airway facilities

A total of 460 navigational aids were in service at 30 June 1979. The total includes 252 non-directional beacons (NDB) (includes 224 standard NDB's and 28 locators), 107 distance measuring equipment (DME), 11 international distance measuring equipment (DMEI), 2 visual-aural ranges (VAR), 70 VHF omni-directional ranges (VOR), 17 instrument landing systems (ILS) and one twin locator approach system.

One hundred and fifty-five aerodromes are now equipped with night landing facilities. Eighty-seven Australian-designed 'T' systems (T-VASIS) are operating. Seven long-range surveillance radars, two short range and seven secondary surveillance radars (seven civil, two military) are also in operation. There are twenty-eight fully-equipped Air Traffic Control Centres and forty-three flight service units in operation.

Air transport registrations, licences, etc., in force in Australia

At 30 June 1979 there were 5,997 aircraft registered in Australia. At the same time there were also 50,314 pilots' licences in force, of which 21,937 were private pilots' licences, 7,653 commercial pilots' licences, and 20,724 student pilots' licences. Flight radio-telephone operators' licences numbered 36,884.

Accidents and casualties

AIR TRANSPORT: ACCIDENTS INVOLVING CASUALTIES(*a*) AUSTRALIA(*b*)

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Number	34	24	32	33	45	43
Persons killed	46	25	54	39	54	42
Persons seriously injured	19	16	24	24	24	37

(*a*) Accidents involving civil aircraft which resulted in death or serious injury. Excludes parachutists killed on contact with earth after an uninterrupted fall. (*b*) Excludes accidents outside Australia involving aircraft on the Australian register; includes all accidents to overseas registered aircraft that occur in Australia.

POSTAL, TELECOMMUNICATION AND RADIOCOMMUNICATION SERVICES

In this section, particulars for the Australian Capital Territory are included with those for New South Wales, and the South Australian figures include particulars for the Northern Territory, unless otherwise indicated. The Central Offices of the Postal and Telecommunications Department are located in Canberra, Melbourne and Sydney.

Postal and Telecommunications Department

The Postal and Telecommunications Department was created on 22 December 1975. It replaced the Postmaster-General's Department, assuming those PMG functions remaining after the formation of the Postal and Telecommunications Commissions on 1 July 1975. A major activity of the Department is the administration of the *Wireless Telegraphy Act* 1905 which concerns the regulation and management of the radio frequency spectrum for radiocommunications within the Commonwealth and its Territories.

The Department undertakes, also, planning for the development of broadcasting and television services in Australia and the determination of standards and practices for technical equipment used in broadcasting and television services for which formal responsibility attaches to the Minister for Post and Telecommunications pursuant to the provisions of the Broadcasting and Television Act.

Another function of the Department is to provide policy advice to the Minister on postal, telegraphic, telephonic, broadcasting and other like services which are subject to legislation for which the Minister for Post and Telecommunications is responsible.

Authorities responsible to the Minister for Post and Telecommunications have been established to provide within Australia a network of facilities which enable people and organisations:

- to send letters, printed matter, parcels and money in Australia and overseas and to receive such items within Australia from overseas;
- to converse by telephone in Australia and overseas;
- to send and receive written messages, data pictures and other visual matter by electrical means within Australia and to and from overseas;
- to relay on the telecommunications network, radio and television broadcasts emanating within Australia and those on relay to and from overseas.

Australian Postal Commission

The Australian Postal Commission was established under the *Postal Services Act* 1975. It commenced operations on 1 July 1975 and trades under the name Australia Post.

The establishment of the Australian Postal Commission was accompanied by a complete reorganisation of the management of postal services in Australia. The Commission was given a charter to improve postal services whilst avoiding the large financial losses of previous years. The Postal Services Act sets specific financial objectives for the Commission, which are designed to enable postal services to be operated on a business-oriented basis.

In accordance with the *Postal Services Act* 1975, the Australian Postal Commission is required to pursue, as far as practicable, a financial policy to secure revenue sufficient to meet all expenditure chargeable to revenue and provide at least half of its capital expenditure.

Since 1 July 1975, Australia Post has taken a number of initiatives to develop new services and maintain existing ones while at the same time maintaining competitive pricing. The initiatives include:

- the introduction of Australia Post Courier services
- the introduction of reduced rate and discount mail services for bulk lodgements of mail
- the introduction of a concessional rate for domestic Christmas greeting cards
- the introduction of a new postal Money Order Service
- the revision of the Registered Publications Service
- the introduction of an overnight parcels service between all capital cities, and
- a new policy for rural and remote mail deliveries which provides for a minimum of twice weekly delivery wherever practicable.

In order to improve services further, the Commission has undertaken a program to decentralise the mail sorting and distribution network. The program involves the establishment of regional mail sorting centres in country and suburban areas and, to date, mail network plans have been approved for New South Wales, Victoria and Queensland. Decentralised mail handling centres are already operating in those States, and the implementation of the decentralised network in Victoria is almost complete.

The following tables indicate Australia Post's financial results, services and operations for 1978–79. Selected tables also show figures for earlier periods.

AUSTRALIAN POSTAL COMMISSION: REVENUE AND EXPENDITURE, 1973 TO 1978
($'000)

Year ended 30 June—	*1974*	*1975*	*1976(a)*	*1977(a)*	*1978(a)*	1979(*a*)
Revenue—						
Mail services	224,246	274,073	402,221	435,790	456,739	528,978
Money order, postal order services	4,944	5,653	7,481	6,881	6,242	5,434
Commission on agency services	11,863	13,207	85,892	101,739	95,636	93,171
Other revenue	3,943	9,055	10,044	17,186	20,110	18,907
Total	**244,996**	**301,988**	**505,638**	**561,596**	**578,727**	**646,490**
Expenditure—						
Operating and general	203,185	262,006	354,995	395,675	426,100	476,915
Transportation	36,638	42,214	46,723	50,168	55,343	44,842
Depreciation, superannuation, long-service leave, interest	59,691	62,364	72,258	86,854	95,217	102,144
Total	**299,514**	**366,584**	**473,976**	**532,697**	**576,660**	**623,901**

(*a*) Figures not comparable with years prior to 1976 due mainly to changes in accounting for work done at post offices for Telecom Australia.
NOTE: Prior to 1 July 1975, postal services were operated by the Postmaster-General's Department.

AUSTRALIAN POSTAL COMMISSION: STATEMENT OF REVENUE AND EXPENDITURE FOR THE YEAR ENDED 30 JUNE 1979
($'000)

Revenue—	
Mail services	528,978
Postal order and money order services	5,434
Commission on agency services	93,171
Other revenue	18,907
Total	*646,490*
Expenditure—	
Operating and general	476,915
Transportation	44,842
Depreciation	13,926
Superannuation	65,550
Long Service Leave	18,582
Interest	4,086
Total	*623,901*
Accumulated surplus available for appropriation—	
Operating surplus	22,589
Accumulated surplus brought forward	23,301
Total	*45,890*
Appropriation—	
For Capital Financing	23,301
Total	*23,301*
Accumulated surplus carried forward	**22,589**

AUSTRALIAN POSTAL COMMISSION: SUMMARY OF TRANSACTIONS AFFECTING FIXED ASSETS, 1978-1979
($)

Class of asset	*Value at 1 July 1978*	*Additions in the year*	*Asset expenditure written out*	*Value at 30 June 1979 (a)*
Land	24,781,759	980,766	999,019	24,267,263
Buildings	166,334,247	13,863,818	797,056	177,911,214
Motor vehicles	12,439,275	4,055,887	3,996,302	12,498,860
Plant	35,513,478	2,107,731	2,052,436	35,568,773
Equipment	15,983,749	2,964,388	526,162	18,292,310
Total value of fixed assets	*255,052,508*	*23,972,590*	*8,370,975*	*268,538,420*
Less depreciation				*56,317,720*
Net book value of fixed assets				**212,220,700**

(*a*) At cost.

AUSTRALIAN POSTAL COMMISSION: ANALYSIS OF TRANSACTIONS AFFECTING THE PROVISION FOR DEPRECIATION, 1978-79

($)

Class of asset	*Balance of provision at 1 July 1978*	*Depreciation provided for in 1978–79*	*Asset expenditure written out*	*Balance of provision at 30 June 1979*
Buildings	28,528,555	5,490,637	342,340	31,690,814
Motor vehicles	4,422,795	4,146,425	3,996,302	4,572,918
Plant	13,341,199	3,092,749	2,052,436	14,381,512
Equipment	5,131,733	1,196,570	526,162	5,672,476
Total value of provision	**51,424,282**	**13,926,381**	**6,917,240**	**56,317,720**

AUSTRALIAN POSTAL COMMISSION: PERSONS ENGAGED IN PROVIDING POSTAL SERVICES AT 30 JUNE 1979

	H.Q.	*N.S.W. (Incl. A.C.T.)*	*Vic.*	*Qld*	*S.A. (Incl. N.T.)*	*W.A.*	*Tas.*	*Aust. 1978*	*Aust. 1979*
Full time official staff (*a*)—									
Permanent	532	9,400	6,092	3,519	2,517	1,989	679	24,728	24,565
Temporary	21	3,296	2,219	542	264	358	107	6,807	7,086
Other staff(*b*)	1	4,351	2,495	2,008	1,195	959	473	11,482	11,855
Total	**554**	**17,047**	**10,806**	**6,069**	**3,976**	**3,306**	**1,259**	**43,017**	**43,506**

(*a*) 'Official Staff' are those whose employment is governed by the *Postal Services Act* 1975. (*b*) Includes persons who are not employed under the Postal Services Act, but who are employed on the basis of business transacted. Also included are persons or organisations who hold road mail service contracts with the Australian Postal Commission.

AUSTRALIAN POSTAL COMMISSION: MAIL DELIVERY NETWORK AND POST OFFICES AT 30 JUNE 1979

	N.S.W	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust. 1979*	*Aust. 1978*
Contract road services	1,766	816	1,049	298	394	183	4,506	4,608
Households receiving mail	1,716,377	1,255,099	678,213	454,277	395,488	131,144	4,630,598	4,527,971
Businesses receiving mail	153,962	108,769	67,851	38,673	37,385	11,015	417,655	401,167
Post Offices—								
Official—								
At 1 July 1978	513	336	224	169	163	42	1,447	..
At 30 June 1979	508	332	225	166	160	42	1,433	..
Non-official—								
At 1 July 1978	1,339	1,003	639	552	376	215	4,124	..
At 30 June 1979	1,241	970	597	535	365	207	3,915	..
Total post offices	1,749	1,302	822	701	525	249	5,348	..

AUSTRALIAN POSTAL COMMISSION: TOTAL POSTAL ARTICLES HANDLED

('000)

Year ended 30 June	*Posted for delivery within Australia*	*Posted for places abroad*	*Received from abroad*	*Total postal articles handled*	*Mail carried on domestic air services (included in total)(a)*	
					Articles	*Gross weight*
						kilograms
1974	2,411,355	97,833	147,053	2,656,241	499,767	6,483,148
1975	2,281,898	93,898	140,176	2,515,972	495,725	6,430,717
1976	1,989,575	82,577	136,394	2,208,546	431,328	5,594,724
1977	1,972,570	85,005	140,802	2,198,377	496,470	6,448,310
1978	2,069,153	84,993	149,393	2,303,539	516,330	6,706,242
1979	2,281,974	81,433	149,278	2,512,685	661,352	8,590,967

(*a*) Postings within Australia and Territories for delivery therein.

AUSTRALIAN POSTAL COMMISSION: ORDINARY POSTAL ARTICLES(*a*)
('000)

Year ended 30 June	*Standard letters*				*Non-standard articles*			
	Posted for delivery within Australia	*Posted for places abroad*	*Received from abroad*	*Total articles*	*Posted for delivery within Australia*	*Posted for places abroad*	*Received from abroad*	*Total articles*
1977	1,697,798	70,102	103,115	1,871,015	254,502	12,498	33,021	300,021
1978	1,774,608	67,610	110,222	1,952,440	273,189	14,893	34,379	322,461
1979	1,963,533	66,332	108,923	2,138,788	295,458	12,642	35,547	343,647
STATES—YEAR ENDED 30 JUNE 1979								
New South Wales	774,802	29,305	47,873	851,980	128,423	7,010	14,383	149,816
Victoria	528,480	19,611	38,103	586,194	84,850	3,448	14,745	103,043
Queensland	282,864	5,787	10,100	298,751	32,484	1,014	2,378	35,876
South Australia	172,208	5,863	5,700	183,771	19,655	407	1,541	21,603
Western Australia	153,644	5,473	7,147	166,264	17,814	743	2,500	21,057
Tasmania	51,535	293	..	51,828	12,232	20	..	12,252

(*a*) Includes certified, messenger delivery and priority paid mail.

AUSTRALIAN POSTAL COMMISSION: REGISTERED ARTICLES(*a*) AND PARCELS(*b*)
('000)

Year ended 30 June	*Registered articles*				*Parcels*			
	Posted for delivery in Australia	*Posted for places abroad*	*Received from abroad*	*Total articles*	*Posted for delivery in Australia*	*Posted for places abroad*	*Received from abroad*	*Total articles*
1974	7,063	1,898	2,761	11,722	22,323	1,041	1,964	25,328
1975	6,256	2,113	2,797	11,166	20,419	1,002	1,939	23,360
1976	3,877	1,533	2,807	8,217	15,300	1,050	1,950	18,300
1977	3,370	1,375	2,696	7,441	16,900	1,030	1,970	19,900
1978	3,122	1,422	2,794	7,338	18,234	1,068	1,998	21,300
1979	3,108	1,371	2,790	7,269	19,875	1,088	2,018	22,981
STATES—YEAR ENDED 30 JUNE 1979								
New South Wales	1,039	734	1,789	3,562	7,891	474	723	9,088
Victoria	823	427	829	2,079	5,632	376	761	6,769
Queensland	525	64	47	636	2,994	80	287	3,361
South Australia	342	64	29	435	1,570	78	95	1,743
Western Australia	260	80	96	436	1,409	80	152	1,641
Tasmania	119	2	..	121	379	..	..	379

(*a*) Totals include messenger delivery mail. (*b*) Totals include certified, messenger delivery and priority paid mail.

AUSTRALIAN POSTAL COMMISSION: SPECIAL SERVICES: ARTICLES HANDLED
('000)

Year ended 30 June	*Certified mail*	*Messenger delivery*	*Priority paid mail*(*a*)
1974	6,241	1,794	1,623
1975	6,288	1,572	1,462
1976	5,424	1,129	1,386
1977	4,927	1,007	1,449
1978	5,473	1,013	1,783
1979	5,056	1,048	2,020
STATES—YEAR ENDED 30 JUNE 1979			
New South Wales	1,555	665	1,047
Victoria	1,360	194	426
Queensland	961	68	161
South Australia	450	61	205
Western Australia	485	54	121
Tasmania	245	6	60

AUSTRALIAN POSTAL COMMISSION: MONEY ORDERS AND POSTAL ORDERS

Year ended 30 June	*Money orders issued(a)*				*Postal orders issued(a)*	
	For payment in Australia		*For payment overseas*			
	Number	*Value*	*Number*	*Value*	*Number*	*Value*
	'000	$'000	'000	$'000	'000	$'000
1974	4,348	149,099	426	5,343	15,822	60,887
1975	4,161	177,023	361	5,645	14,547	60,566
1976	3,685	197,201	258	4,681	9,673	42,554
1977	3,610	218,513	198	4,162	7,100	33,075
1978(*b*)	6,801	337,652	188	4,515	2,228	10,863
1979(*b*)	9,584	427,898	181	5,019	..	..

(*a*) Since 21 November 1977 a new Postal Money Order Service has replaced both the Money Order and Postal Order Services.
(*b*) Money Orders issued includes Postal Money Orders issued since 21 November 1977.

AUSTRALIAN POSTAL COMMISSION: SUMMARY OF AUSTRALIAN OVERSEAS AIRMAIL—ARTICLES
('000)

Year ended 30 June	*Despatched overseas*				*Received from overseas*			
	Letters	*Other articles*	*Parcels*	*Total articles*	*Letters*	*Other articles*	*Parcels*	*Total articles*
1974	66,418	8,322	275	75,015	96,949	9,239	695	106,883
1975	66,097	8,508	301	74,906	96,615	9,557	741	106,913
1976	59,210	7,371	274	66,855	96,450	9,763	799	107,012
1977	59,103	7,433	337	66,873	97,885	11,013	851	109,749
1978	59,554	8,014	395	67,963	100,067	12,712	859	113,638
1979	62,413	5,617	392	68,422	98,851	12,259	917	112,027

Telecommunications services within Australia

The Australian Telecommunications Commission commenced operations on 1 July 1975, taking over the telecommunications functions of the former Postmaster-General's Department.

The functions of the Commission as set out in the *Telecommunications Act* 1975 are:

- to plan, establish, maintain and operate telecommunications services within Australia;
- to operate such other services as the Commission is authorised by this Act to operate;
- to provide, at the request of the Australian Government, technical assistance outside Australia in relation to the planning, establishment, maintenance and operation of telecommunications services in countries outside Australia; and
- to do anything incidental or conducive to the performance of any of the preceding functions.

Financial Results

The following tables show the earnings, expenses and funds situation for the latest three years of the Commission's operations.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: REVENUE
($'000)

Year ended 30 June—	*1977*	*1978*	*1979*
Telephone rentals	454,111	495,420	533,295
Telephone calls	967,331	1,078,830	1,211,057
Telephone connections and rearrangements	77,465	80,719	88,206
Telegrams	31,511	31,303	35,187
Telex rentals	16,219	18,655	21,495
Telex calls	20,021	26,081	24,890
Other earnings(*a*)	108,334	125,490	130,274
Total	**1,674,991**	**1,856,499**	**2,044,404**

(*a*) Major items within this classification are: Fees for advertisements in telephone directories, proceeds of sales of fixed assets, telephone service connection fees and telex call fees.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: EXPENDITURE

($'000)

Year ended 30 June–	*1977*	*1978*	*1979*
Maintenance of plant	355,196	386,723	424,736
Operating	275,278	288,573	307,994
General and administrative	71,520	105,160	137,001
Accommodation	64,678	74,705	85,917
Depreciation	340,817	366,514	410,412
Superannuation	100,381	106,669	118,887
Long service leave	24,090	25,949	30,849
Interest	278,629	317,288	338,090
Total	**1,510,589**	**1,671,580**	**1,853,884**

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: FUNDS STATEMENT

($ million)

At 30 June–	*1977*	*1978*	*1979*
Source of funds–			
From the Commonwealth	215.0	65.0	–
From the public	193.7	200.3	177.6
From trading activities–			
Net trading result	164.4	184.9	190.5
Plus non-cash charges–			
Depreciation	340.8	372.3	416.4
Excess of liability over cash payment for–long service leave	7.1	10.3	15.4
superannuation	–	–	66.5
Total	*921.0*	*832.8*	*866.4*
Application of funds–			
Increase in fixed assets and stores holdings	897.0	949.5	936.1
Less non-cash charges capitalised–			
Depreciation	-9.2	-10.9	-12.2
Long service leave liability	-15.6	-17.1	-16.6
Superannuation	–	–	-61.4
Increase in current assets over current liabilities	48.8	-108.3	7.1
Plus transfers from long term liabilities	–	19.6	13.4
Total	*921.0*	*832.8*	*866.4*

A brief history of the development of telecommunications in Australia is shown in Year Book No. 59, pages 378-82. Common internal telecommunication operations comprise telephone, telegram, telex and data services. The following tables give details of these services.

TELEPHONE SERVICES IN OPERATION AT 30 JUNE 1979

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Australia*
Type of service–							
Ordinary exchange services	1,512,835	1,155,560	523,051	368,673	316,279	108,886	3,985,284
Party line services	2,354	326	1,952	534	328	–	5,494
Private branch exchange	156,645	127,622	45,389	48,498	40,843	7,445	426,442
Public telephones	12,799	6,997	5,309	3,166	2,864	1,113	32,248
Connected to–							
Automatic exchanges	1,648,418	1,274,849	550,953	409,247	358,006	117,444	4,358,917
Manual exchanges	36,215	15,656	24,748	11,624	2,308	–	90,551
Located in–							
Metropolitan local service area	1,033,164	949,265	311,176	314,935	276,035	52,940	2,937,515
Country areas	651,469	341,240	264,525	105,936	84,279	64,504	1,511,953
Total	*1,684,633*	*1,290,505*	*575,701*	*420,871*	*360,314*	*117,444*	*4,449,468*

TELEPHONE INSTRUMENTS IN SERVICE

At 30 June–	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Australia*
1977	2,376,900	1,701,769	688,024	487,469	436,033	144,711	5,834,906
1978	2,537,345	1,749,733	735,262	531,475	472,788	154,713	6,181,316
1979	2,714,946	1,909,119	797,906	576,901	514,460	163,244	6,676,576
Number per 100 population at 30 June	53.7	49.6	36.4	44.7	41.6	39.2	46.4

LOCAL AND TRUNK LINE TELEPHONE CALLS

Year ended 30 June—	*1977*	*1978*	*1979*
Effective paid local calls	3,924,000,000	4,186,000,000	4,483,000,000
Local calls per service	1,032	1,037	1,041
Trunk line calls	412,000,000	462,000,000	523,000,000
Trunk lines calls per service	108	114	121
Total calls	**4,336,000,000**	**4,648,000,000**	**5,006,000,000**

Subscriber Trunk Dialling (STD) facilities were introduced during the year 1961–62. For the year ended at 30 June 1979, 88.8 per cent of trunk calls were made by STD.

Telegrams

Telegrams can be lodged at any post office or telephone office or from any public telephone equipped for multi-coin operation. In addition, telegrams can be dispatched from any subscriber's telephone or telex service. The number of telegrams of various types transmitted within Australia is set out below.

TELEGRAM TRAFFIC

Year ended 30 June—	*1977*	*1978*	*1979*
Ordinary	9,225,700	7,775,779	6,024,376
Urgent	172,149	164,497	184,934
Lettergrams	16,627	18,916	(*a*)6,688
Meteorological	743,004	635,598	534,482
Service	240,289	371,252	324,286
Total telegrams	**10,397,769**	**8,966,042**	**7,074,766**

(*a*) Lettergrams discontinued from 1 October 1978.

Telex

Particulars of the operations of the telex network, which are additional to the telegraph traffic shown above, are as follows.

TELEX NETWORK SERVICES AND INTERNAL CALLS

Year ended 30 June—	*Number of services*	*Internal calls during the year*
1977	19,601	29,435,000
1978	22,724	32,177,000
1979	25,901	35,564,000

Further detailed statistics are contained in the Commission's Annual Reports.

Overseas telecommunications services

The Overseas Telecommunications Commission (Australia) (OTC), established by the *Overseas Telecommunications Act* 1946, is a Commonwealth Statutory Authority responsible for the establishment, maintenance, operation and development of all public telecommunications services between Australia and other countries, between Australia and its external territories and with ships at sea. It has a specific responsibility under section 38A, to make its services available at the lowest possible rates of charges. The OTC is responsible to the Commonwealth Parliament through the Minister for Post and Telecommunications.

Telephone, telex, public message telegram, phototelegram, switched data and leased circuit services are provided to most countries and places throughout the world by means of submarine cables, communications satellites and, in a decreasing number of cases, short wave radio. Television relay is provided to and from countries with access to satellite communication facilities.

The OTC is directed by five Commissioners appointed by the Governor-General. The chief executive is the General Manager, who is appointed by the Commission.

International consultation

The OTC participates in the Commonwealth Telecommunications Organisation, the International Telecommunication Union and the International Telecommunications Satellite Organisation (INTELSAT) which has established a global communications satellite system. The OTC is involved in the establishment of the International Maritime Satellite Organisation (INMARSAT) which will provide a satellite system for high-grade telephone, telex and data communications with ships at sea on a global basis, including distress and search and rescue communications.

Establishments

The Commission's Head Office is in Sydney and it has offices in Melbourne and Brisbane. The Commission owns and operates International Gateway terminals at Paddington and Broadway in Sydney which interface with the national telecommunications network; cable stations at Cairns (Qld) and at Guam in the Mariana Islands; satellite earth stations at Carnarvon (W.A.), Ceduna (S.A.) and Moree (N.S.W.) which provide more than half of Australia's telecommunications links; international radio stations at Doonside and Bringelly (N.S.W.) and at Gnangara (W.A.); and fourteen coast radio stations at points around the Australian coast and at Norfolk Island for communicating with ships at sea.

Submarine cables

The OTC is a part owner of the following submarine cables (the year in which they opened for service is in brackets): COMPAC, Sydney–Auckland–Suva–Hawaii– Vancouver (1963); SEACOM, Sydney–Madang–Guam–Hong Kong–Kota Kinabula (Malaysia)–Singapore (1967); TRANSPAC II, Hawaii–Guam–Okinawa (1975); HAW III, Hawaii–U.S. Mainland (1975); TASMAN, Sydney–Auckland (1976); A–PNG, Sydney–Port Moresby (1976); OLUHO, Okinawa (Japan)–Philippines–Hong Kong (1977) and ASEAN P–S, Philippines–Singapore (1978). The OTC is a participant in the construction of ASEAN I–S, Indonesia–Singapore, which will be ready for service in June 1980.

Satellites

OTC is a shareholder in INTELSAT which operates communication satellites over the Indian, Pacific and Atlantic Oceans.

1978–79 Statistics

As at March 1979, the OTC staff totalled 2,116, revenue for the previous twelve months was approximately $143 million and profit after tax was $18,058 million, the after tax return on capital and reserves being 22.9 per cent. Telephone service which is available to 240 overseas destinations provided about 61 per cent of revenue, telex about 21 per cent and telegraph about 6.5 per cent. International Subscriber Dialling or ISD, by which the customer can dial his or her own overseas telephone calls, is now available to 70 destinations. Over 98 per cent of overseas telex calls from Australia are now automatically subscriber connected.

Facilities to match growth

The high growth in demand for the Commission's services requires that the capacity of its major transmission and switching plant be at least doubled every three years. The OTC is applying computer techniques extensively in its telegraph, telephone and telex services.

Charges

The Commission made reductions in charges for leased circuit and long-haul telephone and telex rates in 1978–79. Some telegram tariffs and minor ancillary charges were increased reflecting the cost structure in those areas.

Detailed information on OTC

The Commission reports on its operations to Parliament through its Minister about September each year. Traffic, financial and other information is contained in its Annual Report, copies of which are available on request to the OTC.

International telecommunication traffic

The following table shows particulars of overseas telecommunication traffic between Australia and overseas countries for the years ended 31 March 1978 and 1979.

INTERNATIONAL TELECOMMUNICATION SERVICES: YEARS ENDED 31 MARCH 1978 AND 1979

		Transmissions					
		From Australia		*To Australia*		*Total*	
Service		*1977–78*	*1978–79*	*1977–78*	*1978–79*	*1977–78*	*1978–79*
Telephone	'000 paid minutes	35,877	46,627	32,025	39,327	67,902	85,954
Telex	'000 paid minutes	12,964	13,825	12,203	14,319	25,167	28,144
Television programs	paid minutes	2,464	6,900	21,873	12,688	24,337	19,588
Telegraph services	'000 words	59,351	56,223	44,360	41,554	103,711	97,777

Coastal stations

The Overseas Telecommunications Commission operates fourteen coastal radio stations at points around the Australian coast, and one at Norfolk Island. During the year ended 31 March 1979 the coastal radio service handled 6,462,000 paid words to ships and 5,176,000 words from ships. Ship calls over the radiotelephone service extended over 277,000 paid minutes.

Radiocommunication stations authorised

At 30 June 1978 there were 460,171 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 6,316 were stations established at fixed locations, 24,000 were land stations which were established at fixed locations for communication with mobile stations, 13 were space and broadcasting stations, 420,442 were mobile stations and 9,400 were amateur stations. Particulars of broadcasting stations are shown on page 545.

BROADCASTING AND TELEVISION

Radio and Television broadcasting falls within the jurisdiction of the Commonwealth Government and, pursuant to the *Broadcasting and Television Act* 1942, is one of the responsibilities of the Minister for Post and Telecommunications. Federal bodies which are involved include the Postal and Telecommunications Department, the Australian Broadcasting Commission (ABC), the Special Broadcasting Service, the Australian Broadcasting Tribunal, the Australian Telecommunications Commission and the Overseas Telecommunications Commission.

Basically, the Australian broadcasting system is comprised of the following types of stations:

- national radio and television stations broadcasting programs produced by the Australian Broadcasting Commission;
- commercial radio and television stations operated by companies under licence;
- public radio and television stations operated by corporations under licence on a non-profit basis; and
- stations operated under the aegis of the Special Broadcasting Service.

As from 1 January 1977, the Minister for Post and Telecommunications assumed the responsibility for broadcasting planning, including all matters relating to the technical operation of stations, and for the investigation of interference to the transmission and reception of programs.

The Commercial Radio and Television Service

Commercial radio and television stations are operated by companies under licences granted by the Australian Broadcasting Tribunal and with technical operating conditions determined by the Minister for Postal and Telecommunications. The stations obtain income from the broadcasting of advertisements. At 30 June 1978 there were 125 commercial radio stations in operation in Australia. Call signs for radio stations are prefixed by numerals indicating each State of Australia. (2—New South Wales, 3—Victoria, 4—Queensland, 5—South Australia, 6—Western Australia, 7—Tasmania, 8—Northern Territory). In addition there were fifty commercial television stations and eighty commercial television translator stations in operation in Australia. A television translator station is a station of low power designed to receive the signals of another station and re-transmit them by wireless telegraphy; it does not originate programs. There are eleven repeater stations in Australia operated by mining companies which transmit programs recorded on magnetic tape over a limited area.

The Public Broadcasting and Television Service

The Broadcasting and Television Act also makes provision for the grant of licences for the operation of public radio and television stations. At 1 April 1979, 19 public radio stations were broadcasting "special purpose" programs ranging from fine music to ethnic languages. A number of public radio stations are associated with tertiary educational institutions.

The Special Broadcasting Service

The Special Broadcasting Service (SBS) was established under the provisions of the *Broadcasting and Television Amendment Act* (1977) and began operation on 1 January 1978. The Service has responsibility for the ethnic radio stations in Sydney and Melbourne, 2EA and 3EA. It also provides subsidies for ethnic broadcasting on public broadcasting stations in capital cities and provincial centres other than Sydney and Melbourne. The SBS also conducts experimental ethnic television programs which are broadcast on the ABC.

The Special Broadcasting Service is empowered to undertake other special broadcasting programs as determind by the Government but at present has responsibility only for ethnic broadcasting. Currently the SBS obtains all revenue from public sources but it is empowered under the Act to fund its operations through sponsorship in a form approved by the Minister.

Broadcasting services

The Australian Broadcasting Tribunal

The Australian Broadcasting Tribunal came into being on 1 January 1977 and is responsible for certain of the functions previously performed by the Australian Broadcasting Control Board (abolished 31 December 1976), including the licensing and supervising of the operations (other than technical aspects) of all stations except national stations. The Tribunal is empowered to grant, renew, suspend or revoke licences and to determine program and advertising standards applicable to licensed stations. In particular, the Tribunal is required to conduct public inquiries into the granting of licences following the invitation of applications by the Minister, and into the renewal of licences, the setting of standards of broadcasting practices, alleged breaches of licence conditions and such other matters as the Minister may direct.

The National Broadcasting Service

In sound broadcasting the programs of the National Broadcasting Service are provided by the Australian Broadcasting Commission through transmitters operated by the Australian Telecommunications Commission.

Technical facilities. At 30 June 1979 the National Broadcasting Service comprised 112 transmitting stations, of which eighty-nine were medium frequency, four frequency modulation and nineteen high frequency (six internal and thirteen Radio Australia). During the year, two new 100kw transmitters went into service at Shepparton for Radio Australia.

The medium-frequency transmitters operate in the broadcast band 530 to 1,590 kilohertz. The high-frequency stations, using frequencies within the band of three to thirty megahertz, provide services to listeners in sparsely populated parts of Australia such as the north-west of Western Australia, the Northern Territory, and northern and central Queensland.

Many of the programs provided by country stations are relayed from the capital cities using high-quality program transmission lines. A number of program channels are utilised to link national broadcasting stations in the capital cities of Australia. When necessary, this system is extended to connect both the national and commercial broadcasting stations.

At 30 June 1979 seventy-six of the Australian medium-frequency stations were situated outside the six State capital cities.

Program facilities. The programs of the Australian Broadcasting Commission cover a wide range of activities. The proportions of broadcasting time allocated on Radio 1 stations to the various types of program during 1978–79 were as follows: entertainment 58.4 per cent; news 8.4 per cent; sporting 12.1 per cent; spoken word 8.9 per cent; drama and features 1.9 per cent; parliament 7.7 per cent; religious 1.3 per cent; rural 0.5 per cent; and presentation 0.7 per cent. By contrast, the ABC's Radio 2 station's programming was: classical music 54.4 per cent; light music 0.9 per cent; entertainment 3.4 per cent; drama and features 5.4 per cent; young people's programs 0.4 per cent; education 6.2 per cent; spoken word 12.3 per cent; religious 4.3 per cent; news 8.4 per cent; rural 2.7 per cent; and presentation 1.3 per cent. Radio 3 (regional) stations feature a higher proportion of news and rural programs. Further particulars of the operations of the Australian Broadcasting Commission in respect of music, drama and features, youth education, talks, rural broadcasts, news, and other activities are shown in the Forty-seventh Annual Report of the Australian Broadcasting Commission.

Overseas Broadcasting Service

There are nine high-frequency stations at Shepparton, two at Lyndhurst, Victoria and two at Carnarvon, Western Australia which provide the overseas service known as Radio Australia. As in the case of the National Broadcasting Service, these stations are maintained and operated by the Australian Telecommunications Commission, and their programs are arranged by the ABC. The programs, which, as well as entertainment, give news and information about Australia presented objectively, are directed to most parts of the world but with special emphasis on Asia and the Pacific. They include 67 news bulletins a day. The overseas audience has grown very substantially in recent years, as evidenced by a large and increasing number of letters from listeners abroad (412,478 in 1978–79, compared with 317,106 in 1977–78), Radio Australia broadcasts in nine languages—English, Indonesian, Japanese, Neo-Melanesian, Thai, French, Standard Chinese, Cantonese and Vietnamese.

BROADCASTING STATIONS: 30 JUNE 1979

Type of station	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
National—									
Medium frequency	22	6	20	10	18	6	5	2	89
High frequency	1	2	2	–	1	–	–	–	6
Frequency modulation	1	1	–	1	–	–	–	1	4
Overseas—									
Short wave (Radio Australia)	–	9	–	–	2	–	–	–	11
Commercial—									
Medium frequency	42	22	27	9	16	8	2	2	128
Public broadcasting—									
Medium frequency	2	1	–	1	1	–	–	1	(*a*)6
Frequency modulation	6	3	3	–	2	1	–	–	15

(*a*) Includes broadcasting stations 2EA and 3EA operated by the Special Broadcasting Service.

Television services

The National Television Service

The National Television Service is provided by the Australian Broadcasting Commission through transmitters operated by the Australian Telecommunications Commission. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956. At 30 June 1979, 166 stations were operating, including eighty-one translator stations.

The television programs provided by the Australian Broadcasting Commission cover a wide range of activities. The proportions of television time allocated among the ABC's various departments at 30 June 1979 were as follows: drama, 19.3 per cent; public interest, 15.7 per cent; sporting 16.6 per cent; news 5.5 per cent; variety and acts 5.2 per cent; education 26.0 per cent; musical performance 1.6 per cent; religious 1.3 per cent; rural 0.2 per cent; special arts and aesthetics 0.7 per cent; cartoons 1.1 per cent; panel and quiz games 0.7 per cent; and presentation 6.2 per cent. The average weekly transmission time for the 166 national television transmitters was eighty-seven hours during the year ended 30 June 1979.

During the year ended 30 June 1979, seven new national translator channels went into operation at Tuggeranong, A.C.T.; Young and Tamworth in New South Wales; Cobden and Colac in Victoria, and Tully and Mission Beach (Dunk Island) in Queensland.

Twelve remote communities are now provided with ABC programs from material tape recorded at Townsville and Perth.

Colour television

Colour television (PAL) was introduced in Australia late in 1974 and services became fully effective in March 1975.

TELEVISION AND TRANSLATOR STATIONS: 30 JUNE 1979

Type of station and location	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Total*
National—									
Metropolitan television	1	1	1	1	1	1	1	1	8
Country television	13	7	31	6	15	2	3	–	77
Translator	25	10	15	4	11	14	1	1	81
Total, National	*39*	*18*	*47*	*11*	*27*	*17*	*5*	*2*	*166*
Commercial—									
Metropolitan television	3	3	3	3	2	1	1	1	17
Country television	11	6	8	3	4	1	–	–	33
Translator	27	11	22	2	6	16	–	1	85
Total, Commercial	*41*	*20*	*33*	*8*	*12*	*18*	*1*	*2*	*135*

Related publications

More detailed figures and particulars for earlier years are included in the annual publications, *Rail, Bus and Air Transport, Australia* (9201.0), *Commonwealth Government Finance* (5502.0), and *Motor Vehicle Registrations, Australia* (9304.0). Current information on subjects dealt with in this chapter appears in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), *Overseas and Coastal Shipping, Australia* (annual) (9207.0), *Motor Vehicle Registrations, Australia* (quarterly) (9303.0), one preliminary monthly publication *Registration of New Motor Vehicles, Australia* (9301.0), two quarterly publications *Road Traffic Accidents involving Casualties, Australia* (9403.0) and (9402.0), and the monthly publication, *Road Accident Fatalities, Australia* (9401.0).

Information additional to that contained in Bureau publications is available in the annual reports and other statements of the Department of Transport, the various harbour boards and trusts, the several Government railway authorities, the Australian Postal Commission, the Australian Telecommunications Commission, and the Australian Broadcasting Commission.

CHAPTER 21

PRIVATE FINANCE

CHAPTER 21

PRIVATE FINANCE

This chapter contains statistics on the activities and structure of financial institutions including banks, building societies, insurance companies, finance companies, credit unions and co-operative societies together with descriptions of their operations and relevant controlling legislation.

MONEY

Currency

Australia has a decimal system of currency, the unit being the dollar which is divided into 100 cents. Australian notes are issued in the denominations of $1, $2, $5, $10, $20 and $50 and coins in the denominations of 1c, 2c, 5c, 10c, 20c and 50c.

For additional information on note issues and coinage, refer to the List of Special Articles, etc. towards the back of this Year Book.

AUSTRALIAN NOTES IN CIRCULATION

($ million)

	Last Wednesday in June					
	1974	*1975*	*1976*	*1977*	*1978*	*1979*
$1	53.2	52.7	53.6	57.4	60.8	64.7
$2	130.2	129.1	127.8	133.0	136.0	140.6
$5	103.5	110.2	116.4	121.8	126.7	135.5
$10	701.1	675.2	655.2	628.8	604.5	582.4
$20	960.6	1,186.7	1,334.6	1,489.0	1,620.5	1,756.4
$50	197.5	403.2	633.8	860.8	1,121.7	1,427.7
Total	**2,146.1**	**2,557.1**	**2,921.4**	**3,290.8**	**3,670.2**	**4,107.4**
Held by banks	*300.8*	*339.9*	*352.5*	*378.1*	*413.1*	*451.1*
Held by public	*1,845.3*	*2,217.1*	*2,568.9*	*2,912.8*	*3,257.1*	*3,656.3*

AUSTRALIAN DECIMAL COIN: VALUE OF COIN ISSUED

($ million)

	Year ended 30 June					
	1974	*1975*	*1976*	*1977*	*1978*	*1979*
1c	1.5	1.1	1.4	1.3	1.3	1.1
2c	2.7	1.9	2.1	2.2	2.5	1.8
5c	3.2	3.2	3.3	3.3	2.9	3.6
10c	3.0	4.6	5.6	2.7	3.7	3.7
20c	5.0	7.6	9.9	8.8	8.7	8.0
50c	5.4	7.0	8.3	13.6	13.0	12.1
Total	**20.8**	**25.4**	**30.5**	**31.9**	**32.1**	**30.3**

Volume of money

Statistics of the volume of money in the following table include notes and coins in the hands of the public, deposits of the public with trading banks (including the Reserve Bank) and deposits with all savings banks.

Conceptually, the volume of money is a measure of specified financial assets held by the non-bank public and, consequently, should exclude deposits of the Commonwealth and State Governments and inter-bank deposits. It has not been possible, however, to exclude government and bank holdings of certificates of deposit or deposits with savings banks.

Financial assets included in the volume of money as defined above represent only part (albeit a major part) of the public's total holdings of liquid financial assets. An expanded view of the volume of money would include the public's holdings of such other claims as finance company debentures, deposits and shares of building societies, loans to authorised dealers in the short-term money market, government securities, etc.

VOLUME OF MONEY

(*Source:* Reserve Bank of Australia)

($ million)

Average of weekly figures for June	*Notes and coins in the hands of public*	*Deposits of public with all trading banks*			*Deposits with all savings banks(b)(c)*	*Total volume of money*
		Current(a)	*Fixed(b)*	*Certificates of deposit(b)*		
1974	2,027	5,424	3,943	2,556	11,139	25,087
1975	2,418	5,971	6,739	1,145	(*d*)12,656	(*d*)28,929
1976	2,797	6,775	7,571	1,077	14,651	32,871
1977	3,157	7,220	8,778	978	16,197	36,331
1978	3,542	7,724	9,314	812	17,854	39,246
1979	3,963	9,183	10,449	620	19,654	43,869

(*a*) Excludes deposits of the Commonwealth and State Governments and inter-bank deposits. (*b*) Includes holdings of the Commonwealth and State Governments and banks. (*c*) Interpolated 'weekly average' based on end-of-month figures. (*d*) Data from 1975 reflect a change in accounting procedures by one bank.

FINANCIAL REGULATION

Commonwealth legislation for economic management

With federation in 1901 the new Commonwealth Parliament was given power under section 51 of the Commonwealth Constitution to legislate with respect to 'Banking, other than State Banking, also State Banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money'. In 1911 the Commonwealth entered the field of banking with the establishment of the Commonwealth Bank of Australia, which conducted both trading bank and savings bank operations.

From 1911 to 1945 the functions of central banking became more and more the responsibility of the Commonwealth Bank and in 1945 the Commonwealth Parliament directed it to act as a central bank. In the ensuing period of economic growth and financial development, the need for effective regulatory control of finance through banks became increasingly recognised. During 1959 the Commonwealth Parliament enacted the following legislation:

(*a*) The *Banking Act* 1959 which applies to all banks operating in Australia, including the external territories of the Commonwealth, except State banks trading in their own State. The objects of the Act are:
  (i) to provide a legal framework uniform throughout Australia for regulating the banking system;
  (ii) to safeguard depositors of the banks from loss;
  (iii) to provide for the co-ordination of banking policy under the direction of the Reserve Bank;
  (iv) to control the volume of credit in circulation and bank interest rates; and
  (v) to provide machinery for the control of foreign exchange.

(*b*) The *Reserve Bank Act* 1959 which provides for the constitution and management of the Reserve Bank of Australia, the administration of the *Banking Act* 1959 and the management of the Australian note issue.

(*c*) The *Commonwealth Banks Act* 1959 which provides for the constitution and management of the Commonwealth Banking Corporation, Commonwealth Trading Bank of Australia, Commonwealth Savings Bank of Australia, and the Commonwealth Development Bank of Australia.

Information on more specific aspects of the growth and control of the banking industry is contained in earlier issues of the Year Book (Nos. 31, 37, 45, 46 and 61).

More recently, as a result of the further development of the financial market and the increasing significance in the market of the non-bank financial institutions such as finance companies, building societies, merchant banks and money market dealers, the *Financial Corporations Act* 1974 was introduced. The object of this Act is to assist the Government to achieve effective management of the Australian economy by providing a means for the examination and regulation of the activities of non-bank financial institutions having regard to economic stability, the maintenance of full employment, the efficient allocation of productive resources, the ensuring of adequate levels of finance for housing and the economic prosperity and welfare of the people of Australia. Details of the operation and application of the Act are given in Year Book No. 62, page 541.

Statistics compiled from information collected from corporations registered under the Act are provided in the tables on page 563.

Other Commonwealth legislation directly affecting financial institutions

Insurance. Section 51 of the Commonwealth Constitution confers the necessary powers on the Australian Parliament to legislate with respect to 'insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned'. Commonwealth legislation includes the *Marine Insurance Act* 1909 defining the limits of marine insurance and regulating the terms of contracts, etc.; the *Insurance (Deposits) Act* 1932 requiring the lodgment of deposits by insurance companies; the *Life Insurance Act* 1945 generally regulating life insurance business in Australia; and the *Insurance Act* 1973 generally regulating general (non-life) insurance business in Australia. The *Marine Insurance Act* 1909 and the *Insurance (Deposits) Act* 1932 have limited application.

Life Insurance Act 1945. The objects of this Act are:

(*a*) to replace all State legislation on the subject of life insurance except that relating to the life insurance operations of State government insurance offices within the State concerned, and to provide uniform legislation for the whole of Australia;

(*b*) to appoint a Life Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection for policy holders; and

(*c*) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 20 June 1946. The Life Insurance Commissioner issues an annual report which contains detailed information on the operations of life insurance companies.

Insurance Act 1973. The objects of this Act are:

(*a*) to appoint an Insurance Commissioner to exercise active supervision of the activities of companies conducting general (non-life) insurance business, apart from State government insurance whether or not extending beyond the limits of the State concerned and other organisations specified in the Act, with a view to securing the greatest possible protection for policy holders; and

(*b*) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 19 June 1973. The Insurance Commissioner issues an annual report which contains detailed information on the operations of insurance companies.

State legislation

In each State there exists legislation designed to regulate the activities and monitor the solvency position of particular types of financial institutions which operate on a co-operative basis and lend predominantly to members or consumers. In general, they form the groups covered later in this chapter under the headings of Permanent Building Societies, Terminating Building Societies and Credit Unions.

In some States there is also legislation for the incorporation of State government bodies which operate as banks or insurance offices. Though the regulations in Commonwealth legislation do not directly apply to these bodies, details of their operations have been included in the relevant parts of this chapter because they have agreed to supply information consistent with regulatory reports on a voluntary basis.

BANKS

Reserve Bank of Australia

The Reserve Bank of Australia preserved and continued in existence the original corporate body known as the Commonwealth Bank of Australia under the new name Reserve Bank of Australia.

The general functions of the Reserve Bank are set out in section 10 of the *Reserve Bank Act* 1959, which states:

> 'It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia and that

the powers of the bank under this Act, the *Banking Act* 1959, and regulations under that Act are exercised in such a manner as, in the opinion of the Board, will best contribute to,

(*a*) The stability of the currency of Australia;
(*b*) The maintenance of full employment in Australia; and
(*c*) The economic prosperity and welfare of the people of Australia'.

Management

The policy of the Reserve Bank is determined by a Board consisting of the Governor (Chairman), the Deputy Governor, the Secretary to the Treasury, and seven other members appointed by the Governor-General. The Bank is managed by the Governor, who acts in accordance with the policy of the Board and with any directions of the Board. The Bank is required to inform the Government of the monetary and banking policy of the Board. In the event of a disagreement between the Government and the Board as to whether the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia, the Governor-General, acting with the advice of the Executive Council, may determine the policy to be adopted by the Bank.

Central banking business

Under the *Commonwealth Bank Act* 1911 and the war-time powers conferred by the National Security Regulations, the Commonwealth Bank gradually assumed the functions of a Central Bank. Part III of the *Commonwealth Bank Act* 1945 formally constituted the Bank as a Central Bank and granted the necessary powers to carry on the business of a Central Bank, these powers being carried through into the present Act constituting the Reserve Bank.

Note issue department

The Note Issue Department, established in 1920 when the control of the Australian note issue was transferred from the Commonwealth Treasury to the Commonwealth Bank, was maintained in the same form under the *Reserve Bank Act* 1959. The Reserve Bank may, through this Department, issue, re-issue and cancel Australian notes.

Rural credits department

The Rural Credits Department, established in 1925 for the purpose of making short-term credit available for the orderly marketing of primary produce, was continued in the same form under the *Reserve Bank Act* 1959. The Reserve Bank may, through this Department, make advances upon the security of primary produce placed under the legal control of the Bank, or other security associated with the production or marketing of primary produce, to co-operative associations or marketing boards formed under the laws of the Commonwealth or a State or Territory of the Commonwealth or other bodies specified by proclamation. The period of the advance is not to exceed one year.

RESERVE BANK OF AUSTRALIA: LIABILITIES AND ASSETS
($ million)

LIABILITIES

				Deposits of trading banks				
30 June—	Capital and reserve funds	Special reserve—IMF special drawing rights	Australian notes on issue	Statutory reserve deposit accounts	Other	Deposits of savings banks	All other liabilities	Total
1974	67.1	183.4	2,163.8	912.8	13.9	1,052.7	2,100.9	6,494.5
1975	68.2	207.0	2,545.1	417.9	37.8	908.0	1,540.8	5,724.8
1976	69.3	200.6	2,921.4	779.7	74.7	1,053.9	1,271.1	6,370.8
1977	137.3	218.2	3,319.3	1,584.4	29.5	1,055.7	1,765.4	8,109.9
1978	1,189.3	218.3	3,688.1	726.7	10.7	1,122.6	1,723.0	8,678.8
1979	1,953.5	321.3	4,113.3	1,115.5	21.0	815.7	1,906.2	10,246.5

ASSETS

30 June—	Gold and foreign exchange (*a*)	Australian Government securities (*b*)	Loans, advances, bills discounted	Bank premises (*c*)	All other assets	Total
1974	3,410.8	1,396.6	603.1	51.9	1,032.1	6,494.5
1975	3,337.3	1,227.7	440.3	52.7	666.8	5,724.8
1976	2,422.0	2,706.7	658.6	56.5	527.0	6,370.8
1977	2,466.6	4,205.2	975.0	65.6	397.5	8,109.9
1978	3,047.6	4,365.8	707.0	72.5	485.8	8,678.8
1979	3,706.8	5,173.2	613.6	89.9	663.0	10,246.5

(*a*) Includes currency at short call and International Monetary Fund drawing rights. (*b*) Includes Treasury bills and Treasury notes. (*c*) At cost, less amounts written off.

Trading banks

Commercial banking in Australia is conducted by thirteen trading banks. Six large private trading banks, together with the Commonwealth Trading Bank, are generally referred to as the major trading banks. These banks provide widespread banking facilities throughout Australia. The remaining six banks comprise one small local bank, two overseas banks which have been represented in Australia for many years and three State-owned banks operating only within their respective States.

The major trading banks are as follows: Commonwealth Trading Bank of Australia; Australia and New Zealand Banking Group; The Bank of Adelaide; Bank of New South Wales; The Commercial Bank of Australia Ltd; The Commercial Banking Company of Sydney Ltd; and The National Bank of Australasia Ltd.

The other trading banks are: Bank of Queensland Ltd; Bank of New Zealand; Banque Nationale de Paris; The Rural Bank of New South Wales; State Bank of South Australia; and The Rural and Industries Bank of Western Australia (Rural Department).

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks within the years shown.

AUSTRALIAN TRADING BANKS(*a*): LIABILITIES AND ASSETS(*b*)

($ million)

LIABILITIES

	Paid-up capital	*Reserve funds (used in business of banks)*	*Final dividend proposed*	*Balance of profit and loss account*	*Total share-holders' funds*	*Balances due to other banks*	*Deposits, bills payable and other liabilities(c)*	*Total*
1973 . . .	376.9	388.1	19.3	35.6	819.9	798.3	15,659.9	17,278.1
1974 . . .	417.4	467.6	21.7	39.0	945.7	1,296.0	17,929.1	20,170.8
1975 . . .	426.4	494.8	22.4	48.7	992.4	1,122.4	21,274.6	23,389.4
1976 . . .	450.4	539.0	30.8	58.1	1,078.3	1,220.3	24,077.0	26,375.6
1977 . . .	529.7	663.3	37.1	72.9	1,303.0	1,741.9	26,286.1	29,331.1
1978 . . .	594.6	796.7	42.7	104.1	1,538.0	2,356.2	28,697.7	32,591.9

ASSETS

			Australian public securities					
			Australian Government					
	Coin, bullion, notes and cash at Reserve Bank	*Money at short call overseas*	*Treasury bills and notes*	*Other securities*	*Local and semi-government securities*	*Other public securities*	*Other securities*	*Loans to authorised dealers in short-term money market*
1973 . . .	219.7	81.6	186.5	2,258.5	64.8	258.3	400.3	294.5
1974 . . .	313.7	96.4	203.0	2,059.0	71.3	114.1	423.4	303.7
1975 . . .	378.9	46.0	1,044.0	2,720.9	77.6	167.0	456.9	327.0
1976 . . .	345.8	58.4	313.5	3,737.4	90.0	220.6	509.1	543.8
1977 . . .	338.2	82.4	93.3	3,531.5	117.3	197.1	630.8	368.5
1978 . . .	357.6	144.3	192.3	3,874.5	143.6	440.9	698.5	693.2

	Statutory reserve deposit account with Reserve Bank	*Cheques and bills of, and balances with and due from other banks*	*Loans, advances and bills discounted*	*Bank premises, furniture and sites*	*Bills receivable and remittances in transit*	*All other assets*	*Total*
1973 . . .	905.1	837.9	9,612.4	217.3	1,549.2	392.0	17,278.1
1974 . . .	626.4	962.8	11,611.7	248.3	2,139.8	997.2	20,170.8
1975 . . .	641.9	996.6	13,158.3	311.7	1,911.2	1,151.6	23,389.4
1976 . . .	791.3	982.1	14,817.6	369.7	2,147.0	1,449.1	26.375.6
1977 . . .	1,293.2	1,444.9	17,182.8	445.2	1,896.7	1,709.0	29,331.1
1978 . . .	666.6	1,534.9	18,768.2	504.2	2,173.7	2,399.3	32,591.9

(*a*) Excludes the overseas banks but includes the deposits and assets held against the deposits of the Savings Bank Division of the Rural and Industries Bank of Western Australia. (*b*) Relates to liabilities and assets both inside and outside Australia. (*c*) Includes provisions for contingencies.

Figures shown in the table below are the average of liabilities and assets within Australia (including External Territories) of the banks on the weekly balance days (Wednesdays) during the period concerned.

ALL TRADING BANKS: AVERAGE LIABILITIES AND ASSETS WITHIN AUSTRALIA

($ million)

LIABILITIES(*a*)(*b*)

June	Deposits repayable in Australia				Balances due to other banks	Bills payable and all other liabilities to the public	Total
	Fixed	Current		Total			
		Bearing interest	Not bearing interest				
1974 . . .	6,985.9	660.1	5,068.0	12,714.0	669.2	1,196.9	14,580.0
1975 . . .	8,635.0	842.6	5,458.0	14,935.7	588.0	1,695.2	17,218.9
1976 . . .	9,778.0	927.4	6,249.4	16,954.8	603.7	2,079.0	19,637.6
1977 . . .	11,464.7	990.2	6,634.2	19,089.1	607.9	2,358.0	22,055.0
1978 . . .	11,596.0	1,045.0	7,105.3	19,746.2	682.8	2,907.5	23,336.6
1979 . . .	12.577.3	1,159.8	8,441.8	22,178.9	900.4	4,347.9	27,427.1

ASSETS(*b*)

June	Coin, bullion, notes and cash at Reserve Bank	Australian Government securities		Local and semi-government securities	Loans to authorised dealers in short-term money market	Statutory reserve deposit account with Reserve Bank	Loans, advances and bills discounted	All other assets	Total
		Treasury bills and notes	Other securities						
1974 . . .	273.0	79.8	2,084.3	27.6	65.4	1,032.6	10,120.3	1,678.3	15,361.3
1975 . . .	299.0	1,167.8	2,358.9	31.2	167.4	421.4	11,205.0	2,322.8	17,973.5
1976 . . .	345.6	191.0	3,410.9	32.8	182.3	840.5	12,575.6	2,774.2	20,352.9
1977 . . .	380.0	78.8	3,567.9	46.1	144.4	1,704.2	14,006.0	3,203.4	23,130.7
1978 . . .	409.4	97.9	3,609.1	45.1	190.9	734.0	15,777.2	3,968.8	24,832.3
1979 . . .	435.3	204.4	3,951.2	71.8	265.3	1,125.5	17,759.5	5,528.7	29,341.7

(*a*) Excludes shareholders' funds. (*b*) Excludes inter-branch accounts and contingencies.

Major trading banks: classification of advances and deposits

In the classification of advances and deposits, borrowers and lenders are classified into two main groups:

Residents—comprising all institutions (including branches of overseas institutions) engaged in business in Australia and individuals permanently residing in Australia; and

Non-residents—comprising all other persons and institutions, including companies incorporated abroad, which, although represented, do not carry on business in Australia.

Residents are further classified into:

Businesses—partnerships, companies and other institutions engaged in business in Australia; individuals actively engaged in business or a profession on their own behalf; and mutual, co-operative and benefit societies which distribute their profits to members by way of dividends, rebates of charges for goods and services, or increased benefits.

Public authorities—local and semi-government authorities including separately constituted government business undertakings, but not the Australian and State governments.

Persons—individuals other than those carrying on a business or profession.

Non-profit organisations—organisations which are not operated for the purpose of making a profit or gain to individual members, but for the purposes of the organisations or for the benefit of the community in general.

MAJOR TRADING BANKS: CLASSIFICATION OF ADVANCES AND DEPOSITS WITHIN AUSTRALIA

($ million)

	Advances				*Deposits*			
	At second Wednesday of:				*At second Wednesday of:*			
	July 1977	*January 1978*	*July 1978*	*January 1979*	*July 1977*	*January 1978*	*July 1978*	*January 1979*
Residents—								
Businesses								
Agriculture, grazing and dairying	1,397.4	1,359.8	1,559.3	1,543.5	1,227.6	1,449.1	1,162.6	1,491.9
Manufacturing	1,711.2	1,684.1	1,795.7	1,726.3	445.1	558.9	462.8	637.2
Transport, storage and communication	208.7	219.4	229.1	236.9	211.9	216.4	193.4	192.3
Finance	627.6	623.0	818.5	895.1	1,226.1	1,087.9	1,104.6	1,324.2
Commerce	1,454.8	1,464.0	1,518.8	1,583.0	745.1	918.5	822.3	969.1
Building and construction	416.8	392.6	436.9	456.1	365.1	409.1	389.0	406.3
Other businesses	2,137.0	2,192.3	2,192.9	2,192.0	1,879.7	2,018.9	1,998.2	1,959.2
Unclassified	263.9	332.3	231.7	326.0	280.4	265.0	291.5	472.9
Total business	*8,217.4*	*8,267.6*	*8,782.9*	*8,958.8*	*6,380.9*	*6,923.8*	*6,424.5*	*7,453.2*
of which—								
Companies	5,025.2	5,063.0	5,357.7	5,085.9	2,943.5	3,144.8	2,873.2	3,259.7
Other	3,192.2	3,204.7	3,425.2	3,872.9	3,437.4	3,779.0	3,551.3	4,193.6
Public authorities	155.5	231.1	93.5	138.2	1,580.8	1,765.9	1,558.5	1,849.2
Persons	3,939.0	4,204.1	4,730.2	5,301.5	5,749.7	6,253.4	6,811.2	7,609.5
Non-profit organisations	128.3	136.9	137.0	136.5	848.2	789.4	849.1	815.3
Total residents	*12,440.1*	*12,839.7*	*13,743.7*	*14,535.0*	*14,559.6*	*15,732.5*	*15,643.3*	*17,727.3*
Total non-residents	*14.4*	*11.8*	*11.8*	*16.1*	*210.3*	*208.1*	*223.9*	*282.6*
Total	**12,454.6**	**12,851.5**	**13,755.5**	**14,551.1**	**14,769.9**	**15,940.5**	**15,867.2**	**18,009.9**

Interest rates

At 30 June 1979, the maximum rates of interest were: (i) on fixed deposits of less than $50,000, for periods of 3 months and less than 6 months—7.25 per cent to 7.75 per cent, 6 months and less than 2 years—7.75 per cent to 8.50 per cent, 2 years and less than 4 years—8.00 per cent to 9.00 per cent; (ii) on fixed deposits of $50,000 and over, 30 days to 4 years—10 per cent; (iii) on certificates of deposit of $50,000 and over, 3 months to 4 years—not subject to maximum rate; (iv) on overdrafts under $100,000—10.50 per cent; (v) on overdrafts over $100,000—not subject to maximum rate; (vi) on personal loans—7.50 per cent.

Branches and agencies

At 30 June 1979 the major trading banks operated 4,703 branches, and the other trading banks 352 branches. Of the total 5,055 branches, 2,767 were located in metropolitan areas. Trading bank facilities were also available at 977 agencies throughout Australia.

Debits to customers' accounts

TRADING BANKS: AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS(*a*)

($ million)

June	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1974	3,772.6	2,932.5	799.2	438.9	502.9	113.3	21.4	70.5	8,651.2
1975	4,052.6	3,334.9	870.1	494.1	579.3	131.2	23.9	95.4	9,581.5
1976	5,079.1	4,442.3	1,209.5	676.9	756.5	173.8	32.8	152.4	12,523.2
1977	5,443.8	5,209.3	1,421.8	789.7	875.5	184.0	36.3	150.7	14,111.2
1978	7,316.5	5,552.6	1,528.1	846.8	1,079.7	190.9	35.7	246.0	16,796.3
1979	8,146.9	7,050.1	1,712.4	924.5	1,370.3	243.8	43.1	186.9	19,678.1

(*a*) Covers all trading banks and in addition the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank. Excludes debits to the Australian and State Government accounts in capital cities.

Savings banks

Prior to 1956 savings bank operations were conducted by the Commonwealth Savings Bank, two trustee savings banks in Tasmania, and State-owned banks in Victoria, South Australia and Western Australia. In January 1956 private savings banks were established as subsidiary companies by two of the private trading banks. By mid-1962 all the major private trading banks had established savings bank subsidiary companies. In May 1972 the Bank of New Zealand Savings Bank Limited was granted an authority to carry on savings bank business in Australia.

All savings banks, including trustee savings banks but not State savings banks, are subject to the *Banking Act* 1959.

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks falling within the years shown.

SAVINGS BANKS (*a*): LIABILITIES AND ASSETS (*b*)
($ million)

LIABILITIES

	Paid-up capital	*Reserve funds (used in the business of the bank)*	*Balance of profit and loss account*	*Total share-holders' funds*	*Depositors' balances*	*Balances due to other banks*	*Bills payable and all other liabilities (c)*	*Total*
1973 . . .	36.5	191.1	9.4	237.1	10,398.4	25.3	343.6	11,004.4
1974 . . .	40.5	207.3	9.7	257.5	11,101.0	35.9	395.6	11,789.9
1975 . . .	43.0	227.0	11.1	281.0	12,984.8	96.7	549.6	13,912.2
1976 . . .	49.0	262.0	14.1	325.1	14,956.3	65.2	633.5	15,980.1
1977 . . .	60.0	302.9	19.1	381.9	16,432.0	133.7	682.5	17,630.0
1978 . . .	60.0	370.8	22.6	453.4	18,078.7	86.1	751.4	19,369.6

ASSETS

			Australian public securities			
			Australian and State Governments			
	Coin, bullion, notes and deposits with Reserve Bank	*Deposits in Australia with trading banks*	*Treasury bills and notes*	*Other securities*	*Local and semi-government securities*	*Other securities*
1973	1,356.8	233.5	104.1	2,744.4	2,511.2	40.2
1974	1,059.0	281.3	47.8	2,850.4	2,791.6	24.8
1975	978.5	430.9	50.4	3,001.8	3,298.1	43.6
1976	1,099.3	314.4	48.6	2,896.5	3,898.6	55.8
1977	1,136.2	283.4	53.9	2,643.7	4,472.2	48.6
1978	1,146.9	218.4	97.1	2,514.5	4,899.8	16.3

	Loans to authorised dealers in short-term money market	*Cheques and bills of, and balances with and due from other banks (d)*	*Loans advances and bills discounted*	*Bank premises, furniture and sites*	*Bills receivable and re-mittances in transit*	*All other assets*	*Total*
1973	103.6	228.4	3,433.1	119.7	–	129.4	11,004.4
1974	69.7	245.4	4,138.1	135.5	–	146.2	11,789.9
1975	79.5	279.1	5,381.8	173.3	0.1	195.3	13,912.2
1976	68.2	322.9	6,805.1	204.9	55.8	210.1	15,980.1
1977	67.9	300.1	8,056.5	240.6	81.3	245.6	17,630.0
1978	118.0	351.4	9,371.4	276.6	71.2	287.8	19,369.6

(*a*) Excludes Savings Bank Division of the Rural and Industries Bank of Western Australia. (*b*) This table relates to liabilities and assets both inside and outside Australia. (*c*) Includes provisions for contingencies. (*d*) Includes deposits with and loans to specified lenders other than trading banks.

Branches and agencies

At 30 June 1979 the savings banks operated 5,615 branches and 12,164 agencies, of which 3,147 branches and 5,954 agencies were in metropolitan areas.

Development banks

Commonwealth Development Bank of Australia

The Commonwealth Development Bank of Australia was established by the *Commonwealth Banks Act* 1959 and commenced operations on 14 January 1960. It was formed basically from an amalgamation of the Mortgage Bank and Industrial Finance Departments of the Commonwealth Bank of Australia. Under the Act the Bank is authorised to provide assistance for the development of worthwhile enterprises in the fields of primary and secondary industries which would otherwise be unable to obtain the necessary finance on reasonable and suitable terms and conditions. The Commonwealth Development Bank is managed by a General Manager under the Managing Director of the Commonwealth Banking Corporation and its policy is determined by the Board of that Corporation. The capital of the Development Bank consists of the capital of the Mortgage Bank and Industrial Finance Departments of the Commonwealth Bank immediately prior to 14 January 1960, $10 million provided by the Reserve Bank, $20 million appropriated from the Consolidated Revenue Fund in 1961–62 by the *Commonwealth Banks Act* 1961 and the *Commonwealth Banks Act* 1962, $10 million appropriated in 1963–64 by the *Commonwealth Banks Act* 1963, and such other sums as are provided from the Commonwealth Development Bank Reserve Fund. The net profits of the Bank are paid to the Commonwealth Development Bank Reserve Fund.

Australian Resources Development Bank Limited

The Australian Resources Development Bank Limited was established in 1967 with equity capital of $3 million subscribed by the major trading banks. It was given the status of a bank under the *Banking Act* 1959 and opened for business on 29 March 1968. The main object of the Australian Resources Development Bank is to assist Australian enterprises to participate more fully in the development of Australia's natural resources. It provides finance to enterprises engaged in major developmental projects by direct loans, investing in equity capital or by refinancing loans made by trading banks acting individually or as a group. The Australian Resources Development Bank obtains funds by accepting deposits and by borrowing on the Australian and overseas capital markets.

The Primary Industry Bank of Australia Limited

The Primary Industry Bank of Australia Limited commenced operations on 22 September 1978 under the authority of the *Primary Industry Bank Act* 1977. The Bank has also been brought within the scope of the *Banking Act* 1959 including those provisions relating to the protection of depositors, advances policy, control of interest rates, furnishing of statistics, and alterations in the structure and ownership of the Bank.

The main objective of the Bank is to facilitate the provision of loans to primary producers for longer terms than are otherwise generally available. The Bank's role is restricted to refinancing loans made by banks and other financial institutions with terms of eight years or more but not exceeding thirty years.

The initial equity capital of the Bank is $5,625,000 consisting of nine shares of $625,000. Eight shares are held by the Australian Government and the seven major trading banks while the ninth share is held equally by the four State banks.

REGISTERED BUILDING SOCIETIES

Permanent building societies

A permanent building society is defined as an organisation that: (i) is registered under relevant State or Territory legislation; (ii) has rules or regulations that do not specify that it is to terminate on a specific date or when a specific objective is achieved; and (iii) operates on a co-operative basis by borrowing predominantly from its members and providing finance to its members principally in the form of housing loans.

In 1976 a statistical collection was introduced covering the financial accounts of permanent building societies in all States and Territories of Australia. The statistics below summarise information collected from the 153 permanent building societies balancing in the 1977–78 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Permanent Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5632.0).

Information relating to the housing finance operations of permanent building societies is provided on pages 574–6. Detailed statistics on the operations generally of permanent building societies are available in the monthly publication *Housing Finance for Owner Occupation, Permanent Building Societies, Australia* (5610.0).

Summary statistics on the financial operations, assets and selected liabilities of permanent building societies registered under the *Financial Corporations Act* 1974, and which have assets in Australia exceeding $5 million, are given on page 563.

PERMANENT BUILDING SOCIETIES: LIABILITIES AND ASSETS(*a*)

($ million)

Liabilities	*1977–78*	*Assets*	*1977–78*
Share capital and reserves:		Amount owing on loans	5,898.7
Non-withdrawable shares	19.2		
Withdrawable shares	5,471.6	Cash on hand	4.0
Reserves—		Deposits with—	
Statutory	56.3	Banks	720.7
Other(*b*)	64.8	Other	181.3
Deposits	1,625.3	Bills, bonds and other securities	525.4
Loans	223.6	Accounts receivable	15.7
Accounts payable	23.0	Physical assets	160.0
Other liabilities	26.0	Other assets	3.9
Total liabilities	**7,509.8**	**Total assets**	**7,509.8**

(*a*) At the balance dates of societies within the financial year shown. (*b*) Includes accumulated surpluses and deficits.

PERMANENT BUILDING SOCIETIES: INCOME AND EXPENDITURE

($ million)

Expenditure	*1977–78*	*Income*	*1977–78*
Interest on:		Interest from:	
Shares	441.8	Loans	624.2
Deposits	140.7	Deposits	85.7
Loans	16.3		
Wages and salaries	40.3	Income from holdings of securities	44.4
Management fees(*a*)	20.1		
Administrative expenses(*b*)	42.1	Management fees	11.4
Insurance premiums paid	1.2		
Other expenditure	25.7	Other income	11.6
Total expenditure	**728.1**	**Total income**	**777.2**

(*a*) Represents payments made by societies to separate management companies. (*b*) Includes Permanent Building Society Association costs, advertising, bank charges and other administrative expenses.

Terminating building societies

A terminating building society is defined as an organisation that: (i) is registered under relevant State or Territory legislation; (ii) has rules or regulations which specify that it is to terminate on a specific date or when a specific objective is achieved; and (iii) makes loans to members from funds obtained from lending institutions (usually government guaranteed), members' subscriptions, or from moneys provided under Commonwealth-State Housing Agreements.

In 1977 a statistical collection was introduced covering the financial accounts of terminating building societies in all States and Territories of Australia. The statistics below summarise information collected from the 6,708 terminating building societies balancing within the 1977–78 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Terminating Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5633.0).

Information relating to the housing finance operations of terminating building societies is provided on pages 574–6.

TERMINATING BUILDING SOCIETIES: LIABILITIES AND ASSETS(*a*)

($ million)

Liabilities	*1977–78*	*Assets*	*1977–78*
Share capital(*b*)	2.4	Amount owing on loans(*b*)	1,214.5
Accumulated funds(*c*)	25.9	Cash on hand and current accounts at banks	11.6
Loans from:		Deposits with:	
Banks	249.5	Banks	2.4
Commonwealth/State Home Builders' Fund(*d*)	730.9	Others	11.3
Others	226.8	Physical assets	0.1
Other liabilities	6.7	Other assets	2.3
Total liabilities	**1,242.2**	**Total assets**	**1,242.2**

(*a*) At the balance dates of societies within the financial year shown. (*b*) Borrowing members' subscriptions have been offset against 'Amount owing on loans'. (*c*) Includes accumulated surpluses and deficits. (*d*) Refers to loans made through the Commonwealth/State Housing Agreements.

TERMINATING BUILDING SOCIETIES: INCOME AND EXPENDITURE

($ million)

Expenditure	*1977–78*	*Income*	*1977–78*
Interest paid on borrowing members' subscriptions	5.0	Interest on:	
Interest on loans from:		Loans to members	82.6
Banks	23.0	Other	1.1
Other	53.0	Management fees	9.2
Salaries and secretarial fees	8.1		
Other expenditure	3.5	Other income	2.4
Total expenditure	**92.6**	**Total income**	**95.2**

CREDIT UNIONS

A credit union (or co-operative credit society) is defined as an organisation that: (i) is registered under relevant State or Territory legislation; and (ii) operates on a co-operative basis by predominantly borrowing from and providing finance to its own members.

Credit union annual financial account statistics were first collected on a national basis from all registered credit unions for the year 1974–75 when there were 738 credit unions with a total of 908,712 members. The numbers of credit unions for 1975–76, 1976–77 and 1977–78 were 721, 707 and 689 with 1,028,125, 1,117,844 and 1,214,828 members respectively. Comprehensive financial account statistics are provided in the annual publication *Credit Unions: Assets, Liabilities, Income and Expenditure, Australia* (5618.0).

Statistics on the housing finance operations of credit unions are provided on page 574, while on page 563 are summary statistics on the financial operations, assets and selected liabilities of credit unions registered under the *Financial Corporations Act* 1974 which have assets in Australia exceeding $5 million.

CREDIT UNIONS: LIABILITIES AND ASSETS(*a*)

($ million)

Liabilities	*1977–78*	*Assets*	*1977–78*
Share capital and reserves:		Amount owing on loans(*c*)	1,099.6
Paid up share capital	10.2	Cash on hand	3.3
Reserves—		Deposits with—	
Statutory	11.3	Banks	46.5
Other(*b*)	14.5	Credit Union Leagues or Associations	66.1
Deposits	1,247.7	Other	46.7
Loans	37.2	Bills, bonds and other securities	24.6
Accounts payable	6.0	Accounts receivable	5.7
Other liabilities	4.2	Physical assets	37.7
		Other assets	0.8
Total liabilities	**1,331.0**	**Total assets**	**1,331.0**

(*a*) At the balance dates of credit unions within the financial year shown. (*b*) Includes accumulated surpluses and deficits. (*c*) Net of unearned interest and allowance for doubtful debts.

CREDIT UNIONS: INCOME AND EXPENDITURE

($ million)

Expenditure	*1977–78*	*Income*	*1977–78*
Interest on:		Interest from:	
Deposits	88.5	Loans	145.0
Loans	2.9	Deposits	11.1
Wages and salaries	25.5		
Administrative expenses	16.1	Income from holdings of securities	2.2
Insurance premiums paid	4.4	Management fees	1.7
Allowance for doubtful debts	3.2	Bad debts recovered	0.6
Other expenditure	8.8	Other income	2.5
Total expenditure	**149.5**	**Total income**	**163.1**

SHORT-TERM MONEY MARKET

Authorised money market corporations

For some years prior to 1959 leading stockbrokers were actively engaged in operations which formed the basis of a short-term money market in Australia. The stockbrokers' operations involved the acceptance of short-term funds which were secured against government securities. These operations were severely limited by the lack of suitable short term securities and by liquidity constraints. In February 1959 the Central Bank established the Official Short-Term Money Market by making available to selected dealers lender of last resort facilities.

There are nine authorised money market dealers. They are required by the Reserve Bank to: (i) accept loans overnight, at call or for fixed periods, in minimum amounts of $50,000 and invest these funds in Australian Government and other approved securities; (ii) at all times be willing traders in the buying and selling of approved securities; (iii) have a minimum paid-up capital of $400,000 and adhere to a maximum limit on the ratio of loans to shareholders' funds; and (iv) consult regularly with the Reserve Bank on all market matters and furnish detailed information about their portfolios, operations, interest rates, balance sheets and profit and loss accounts. Under the lender of last resort arrangements dealers may borrow from the Reserve Bank for a minimum of seven days and at a rate designed to discourage excessive recourse to the facility.

The following table contains details of selected liabilities and assets, and interest rates. Additional information on authorised dealers collected under the *Financial Corporations Act* 1974 is provided on page 563.

SHORT-TERM MONEY MARKET: SELECTED LIABILITIES AND ASSETS AND INTEREST RATES OF AUTHORISED DEALERS

(*Source:* Reserve Bank of Australia)

Month	*Liabilities to clients*			*Asset holdings (face value)*			*Interest rates on loans accepted during month*				*Weighted average interest rate on loans outstanding (c)*
							At call		*For fixed periods*		
	All trading banks	*Other clients*	*Total*	*C'wealth Govt securities (a)*	*Commercial bills(b)*	*Banks' certificates of deposit*	*Minimum*	*Maximum*	*Minimum*	*Maximum*	
	Average of weekly figures—($ million)						*per cent per annum*	*per cent per annum*	*per cent per annum*	*per cent per annum*	*per cent per annum*
June—											
1974	65.4	322.0	387.4	285.9	79.2	42.2	0.50	13.00	1.00	13.00	6.82
1975	167.4	558.7	726.1	613.3	83.7	47.9	1.50	14.10	3.00	11.50	6.72
1976	182.3	636.1	818.4	749.7	129.2	61.3	2.00	14.00	4.50	9.50	8.03
1977	144.8	701.5	846.3	829.5	129.8	21.6	3.00	15.30	5.00	13.80	9.33
1978	190.9	1,088.5	1,279.4	1,143.5	153.5	15.8	0.50	18.86	3.00	11.50	9.05
1979	265.3	1,213.1	1,478.4	1,246.2	190.2	18.3	1.00	18.25	3.10	11.00	7.75

(*a*) Within 5 years of maturity. (*b*) Accepted or endorsed by banks. (*c*) To June 1975 weighted average of rates on clients' loans outstanding on each Wednesday of the month. Thereafter weighted average of rates paid on all days of the four or five weeks ending on the last Wednesday of the month.

Money market corporations

There are also companies without Reserve Bank lender of last resort facilities which operate in a similar manner to authorised dealers. These companies are recognised under the *Financial Corporations Act* 1974 in the category of money market corporations which consists of registered corporations whose short term borrowings are a substantial proportion of their total outstanding provision of finance, which is mainly in the form of loans to authorised dealers in the short term money market and other liquidity placements, business loans and investments in Government, commercial and corporate paper.

The category of money market corporations also includes registered corporations providing short term finance but which are themselves financed by related corporations with funds raised on a short term basis, as well as corporations which borrow principally short term and lend predominantly to related money market corporations.

Statistics on money market corporations registered under the *Financial Corporations Act* 1974 are contained in the table on page 563.

FINANCE COMPANIES

Information presented on finance companies in Australia in the following tables has been compiled from returns collected under the *Census and Statistics Act* 1905. For the purpose of these statistics a finance company is defined as an incorporated company mainly engaged in providing to the general public (businesses as well as persons in their private capacity) credit facilities of the following types: instalment credit for retail sales, personal loans, wholesale finance, factoring, other consumer and commercial loans, financial leasing of business plant and equipment and bills of exchange. A company is mainly engaged in providing these credit facilities if 50 per cent or more of its assets consist of balances outstanding with respect to these types of financing, or if 50 per cent or more of its income is derived from such types of financing.

The statistics for the financial year relate to those finance companies which individually or as a group of related finance companies had balances outstanding in the prescribed types of financial agreements of $5 million or more, on an Australia-wide basis, as at 30 June of the previous financial year. The 105 finance companies that met this criterion at the 1977–78 annual census of finance companies accounted for 98.2 per cent of the balances outstanding of all finance companies.

Comprehensive information on the transactions and financial structure of finance companies is available in the monthly publication *Finance Companies, Australia* (5614.0) and the annual publication *Finance Companies: Assets, Liabilities, Income and Expenditure, Australia* (5616.0) respectively. Information on foreign ownership and control of finance companies is given in Chapter 24, Overseas Transactions.

Although individual corporations in the *Financial Corporations Act* 1974 categories of finance companies and general financiers may meet the above definition of a finance company, differences in definitions, scope and coverage generally mean that the statistics on page 563 for those categories are not comparable with the statistics for finance companies shown below.

FINANCE COMPANIES: ASSETS, LIABILITIES, INCOME AND EXPENDITURE(*a*)

($ million)

	1975–76	*1976–77*	*1977–78*
Assets—			
Balances outstanding on finance agreements(*b*)	8,303.0	10,039.9	11,999.9
Cash on hand and bank deposits	22.5	25.3	28.3
Loans to authorised money market dealers	5.4	18.1	38.6
Investments in shares and securities	206.1	170.6	192.5
Physical assets	201.1	198.6	188.0
Other assets	100.1	166.9	168.0
Total assets	**8,838.2**	**10,619.2**	**12,615.3**
Liabilities—			
Paid-up capital	542.9	629.3	803.2
Reserves	332.3	363.0	384.0
Unappropriated profits	247.2	257.5	238.2
Borrowed funds—			
Bank loans and overdrafts	210.5	225.1	222.6
Debentures	4,721.1	5,655.2	6,313.0
Secured and unsecured loans	2,077.0	2,652.5	3,578.5
Other liabilities	707.1	836.6	1,075.5
Total liabilities	**8,838.2**	**10,619.2**	**12,615.3**
Income for year—			
Interest from finance agreements	1,150.5	1,409.8	1,744.1
Other income	110.3	117.4	136.0
Total income	**1,260.8**	**1,527.2**	**1,880.1**
Expenditure for year—			
Interest on borrowed funds	682.0	845.1	1,089.2
Wages, salaries and allowances, directors fees and emoluments	119.6	145.3	175.5
Other expenditure	251.4	380.7	436.8
Total expenditure	**1,053.0**	**1,371.1**	**1,701.6**

(*a*) At the balance date of companies within the financial year shown. (*b*) Excludes unmatured income of $1,640.5m in 1975–76, $2,215.3m in 1976–77 and $2,796.8m in 1977–78.

FINANCE COMPANIES: AMOUNT FINANCED AND BALANCES OUTSTANDING CLASSIFIED BY THE TYPE OF FINANCE AGREEMENT

($ million)

	1976–77	*1977–78*	*1978–79*(*a*)
Amount financed during year—			
Instalment credit for retail sales and personal loans	2,177.7	2,206.8	2,318.0
Finance for housing	1,190.5	1,064.6	1,107.5
Wholesale finance	3,883.1	4,089.1	4,693.2
Factoring and other commercial loans	1,671.7	1,678.9	2,023.3
Leasing of business plant and equipment(*b*)	1,384.3	1,780.3	2,309.8
Bills of exchange(*c*)	1,420.5	1,962.5	1,084.7
Total amount financed on finance agreements(*d*)	**11,727.9**	**12,782.2**	**13,536.5**
Balances outstanding at 30 June—			
Instalment credit for retail sales and personal loans	3,649.0	4,019.5	4,250.4
Finance for housing	2,696.4	2,712.0	2,630.0
Wholesale finance	925.9	1,078.4	1,249.2
Factoring and other commercial loans	3,007.0	3,069.4	3,272.5
Leasing of business plant and equipment(*e*)	2,717.5	3,761.4	5,091.6
Bills of exchange	163.8	254.3	156.4
Liquidity placements and loans to non-finance companies in group	413.1	424.2	486.6
Total balances outstanding on finance agreements(*f*)	**13,572.7**	**15,319.2**	**17,136.7**

(*a*) Not directly comparable with earlier years, as from July 1978, includes only those finance companies which individually or as a group of related finance companies had balances outstanding in prescribed types of finance agreements (*see* page 572) of $5 million or more (previously $500,000 or more). The impact of this change on the statistics was minimal. (*b*) Refers to the value of goods newly leased. (*c*) Refers to amounts paid for bills acquired. (*d*) Excludes amounts for liquidity placements and loans to non-finance companies in group. (*e*) Refers to the value of leasing agreements. (*f*) Includes unmatured income.

FINANCIAL CORPORATION STATISTICS

The statistics provided in the following tables have been compiled from monthly returns supplied to the Australian Bureau of Statistics by corporations registered under the *Financial Corporations Act* 1974 and which have Australia-wide assets exceeding $5 million. A summary of the objects and content of the Financial Corporations Act is given in Year Book No. 62, page 541. Information is also collected quarterly from registered corporations whose comparable asset figures exceed $1 million but not $5 million. Detailed statistics on all corporations registered under the Act are published in the monthly publication *Financial Corporations Statistics, Australia* (5617.0).

Descriptions of the categories *building societies, credit unions/co-operatives, authorised money market dealers* and *money market corporations* appear in the respective parts of this chapter. Descriptions of the other categories are as follows:

Pastoral Finance Companies—comprising corporations whose provision of finance is predominantly in the form of loans to rural producers largely associated with the provision of rural services.

Finance Companies—comprising corporations not included in the categories *building societies, credit co-operatives, authorised money market dealers, money market corporations* or *pastoral finance companies* which rely substantially on borrowings in financial markets in Australia and/or from abroad and whose provision of finance is predominantly in the form of business and commercial lending, instalment credit to finance retail sales by others and/or other loans to individuals.

General financiers—comprising corporations which lend predominantly for business and commercial purposes, instalment credit to finance retail sales by others and/or other loans to individuals but which do not rely substantially on borrowings in financial markets in Australia and from abroad.

Intra group financiers—comprising corporations not elsewhere categorised which predominantly borrow within a corporation group and/or provide finance by lending within their corporation group or by investing in financial markets.

Other financial corporations—comprising registered corporations not included in any other specific category.

FINANCIAL CORPORATIONS WITH ASSETS IN AUSTRALIA EXCEEDING $5 MILLION: FINANCIAL OPERATIONS, SELECTED LIABILITIES AND ASSETS

($ million)

FINANCIAL OPERATIONS AND SELECTED LIABILITIES AS AT 30 JUNE 1979

		Financial operations			*Selected liabilities*		
			Borrowing lines and standby facilities available and unused from—(b)			*Borrowings from—*	
Category	*Number of corporations*	*Unused lending commitments(a)*	*Residents*	*Non-residents*	*Paid up capital*	*Residents*	*Non-residents*
Building societies	91	315.3	312.3	4.5	(c)21.5	(c)8,351.6	9.4
Credit co-operatives	65	6.1	10.0	–	(c)–	(c)1,062.3	–
Authorised money market dealers	9	9.9	–	–	28.4	1,505.7	0.1
Money market corporations	51	1,014.8	375.5	575.4	211.6	4,471.3	96.5
Pastoral finance companies	14	–	95.2	–	111.8	456.9	1.7
Finance companies	86	720.6	547.7	371.0	1,030.6	13,357.4	98.2
General financiers	70	61.5	137.0	14.3	128.5	903.0	48.2
Intra group financiers	8	–	6.6	4.5	52.0	225.7	33.7
Other financial corporations	8	2.4	14.2	–	1.7	128.9	–
Total	**402**	**2,130.4**	**1,498.5**	**969.7**	**1,586.1**	**30,462.5**	**287.8**

ASSETS IN AUSTRALIA AT 30 JUNE 1979

Category	*Cash and bank deposits*	*Loans to authorised dealers in the STMM and other short term placements(d)*	*Government and public authority securities*	*Bills of exchange and promissory notes discounted and held(e)*	*Other financial investments*	*Other assets arising from the provision of finances (f)*	*All other assets in Australia*	*Total assets in Australia*	*Assets overseas*
Building societies	713.2	88.8	322.4	329.1	19.8	6,951.5	263.4	8,688.3	–
Credit co-operatives	38.0	87.0	16.3	1.5	3.5	919.3	41.6	1,107.0	–
Authorised money market dealers	14.7	–	1,367.6	184.0	–	0.6	19.3	1,586.1	–
Money market corporations	100.4	878.2	168.7	1,426.4	159.4	2,129.9	61.6	4,924.4	36.1
Pastoral finance companies	22.2	15.9	0.4	0.7	150.7	382.0	386.1	958.0	0.9
Finance companies	48.5	237.2	9.8	109.1	437.2	14,903.6	95.4	15,840.8	1.0
General financiers	3.2	22.2	1.0	8.8	40.6	1,156.9	185.1	1,417.8	1.3
Intra group financiers	0.6	(*g*)	–	–	41.7	223.9	65.9	332.2	0.7
Other financial corporations	19.5	37.3	12.1	4.7	(*g*)	48.9	11.2	133.6	–
Total	**960.2**	**1,366.4**	**1,898.5**	**2,064.2**	**852.7**	**26,716.6**	**1,129.6**	**34,988.1**	**40.0**

(*a*) Includes all binding commitments to provide funds to residents of Australia other than those that are of a type which is usually completely disbursed within 30 days of approval; excludes commitments that do not have a quantifiable limit. (*b*) Includes all binding commitments (i.e. borrowing lines and standby facilities) to provide funds to reporting corporations; excludes standby facilities which do not have a quantifiable limit. (*c*) 'Paid-up capital' includes only fixed share capital; withdrawable share capital is included in 'Borrowings from residents'. (*d*) Includes short term placements that are repayable at call or within 90 days; excludes funds placed with banks and related corporations, and purchases of government securities and bills of exchange. (*e*) Excludes bills that have been drawn or accepted by reporting corporations. (*f*) Includes holdings of bills that have been drawn by reporting corporations and loans that have been re-financed by the sale of bills accepted by reporting corporations. (*g*) Not available separately; included in 'All other assets in Australia'.

LIFE INSURANCE

Statistics in the following tables have been compiled from returns lodged under the *Life Insurance Act* 1945 (*see* page 551) and relate to the life insurance business of companies with head offices in Australia and the Australian business of companies with head offices overseas. Also included are the life business operations voluntarily reported by two State Government Insurance Offices.

Fifty life offices conducted life insurance business in Australia during 1977.

Summary information on foreign ownership and control of life insurance business is shown in Chapter 24, Overseas Transactions. More detailed statistics are available in *Foreign Control of Life Insurance Business, Australia* 1976 (5325.0) and *Foreign Ownership and Control of Life Insurance Business, Australia* 1973 (5311.0).

Information contained in the following two tables does not relate to uniform accounting periods but to the balance dates of organisations falling within the financial year shown.

LIFE INSURANCE OFFICES: LIABILITIES AND ASSETS

($ million)

	1975	*1976*	*1977*
Liabilities—			
Shareholders' capital—			
Authorised	122.8	125.2	133.7
Less: unissued	73.8	73.7	73.4
Subscribed capital	49.0	51.5	60.3
Paid-up—			
In money	38.5	41.2	50.0
Otherwise than money	9.5	9.5	9.5
Total paid-up capital	48.0	50.8	59.5
Life insurance statutory funds—			
Ordinary business	7,264.4	7,768.5	8,377.5
Industrial business	551.3	562.8	573.7
Superannuation business	2,731.4	3,205.4	3,744.1
Total statutory funds	10,547.1	11,536.7	12,695.3
Funds in respect of other classes of business	75.4	51.7	76.1
General reserves	156.1	198.6	205.0
Profit and loss account balance	23.4	30.5	42.2
Total shareholders' capital, insurance funds and reserves	*10,850.0*	*11,868.3*	*13,078.1*
Other liabilities—			
Deposits	77.9	83.8	107.0
Staff provident and superannuation funds(*a*)	18.2	23.7	28.3
Claims admitted or intimated but not paid	210.1	235.4	257.1
Premiums paid in advance and in suspense	9.1	9.4	8.5
Sundry creditors	82.8	92.3	94.1
Bank overdraft	78.8	88.2	118.4
Reserves and provisions for taxation	134.9	179.7	220.4
All other liabilities	76.9	68.4	123.7
Total liabilities	**11,538.8**	**12,649.2**	**14,035.6**
Assets held in Australia—			
Fixed assets—			
Freehold and leasehold property, office premises	1,979.3	2,275.3	2,564.2
Furniture, etc	19.8	21.2	33.7
Loans—			
On mortgage	1,341.8	1,330.0	1,338.4
On policies	282.1	278.8	295.8
Other loans	88.0	108.0	124.9
Investments—			
Government securities—			
Australian	2,069.4	2,251.5	2,502.9
Overseas	23.0	31.5	36.8
Securities of local and semi-governmental bodies	791.5	864.7	1,008.0
Other investments	2,554.1	2,875.4	3,166.3
Cash on hand, deposit and current account	142.6	122.6	105.4
All other assets	358.5	406.3	454.1
Total assets held in Australia	*9,650.0*	*10,565.3*	*11,630.5*
Total assets held overseas	*1,888.8*	*2,083.9*	*2,405.0*
Total assets	**11,538.8**	**12,649.2**	**14,035.6**

(*a*) Includes provisions for retirement, long service leave, etc.

LIFE INSURANCE OFFICES: REVENUE AND EXPENDITURE

($ million)

	1975	*1976*	*1977*
Balance of account at beginning of year—Australia and overseas	*9,890.2*	*10,547.0*	*11,536.7*
Revenue—Australia			
Premium income—			
Ordinary business	756.9	787.0	814.5
Industrial business	57.9	58.1	58.0
Superannuation business	560.5	654.4	754.3
Consideration for annuities	20.3	27.9	23.5
Net interest dividends and rents	525.5	588.4	668.6
Other revenue	205.4	173.3	222.4
Total revenue—Australia	*2,126.6*	*2,289.1*	*2,541.3*
Revenue—overseas			
Premium income	204.9	232.6	266.6
Net interest dividends and rents	117.7	135.9	161.2
Other revenue	58.0	118.1	181.7
Total revenue—overseas	*380.6*	*486.6*	*609.5*
Total revenue	**2,507.2**	**2,775.7**	**3,150.8**
Total	**12,397.4**	**13,322.6**	**14,687.5**
Expenditure—Australia			
Payments on policies			
Claims	454.9	497.8	555.8
Surrenders	383.1	457.1	520.2
Annuities	3.8	3.7	3.3
Bonuses paid in cash	9.4	8.6	10.5
Expenses of management—			
Commission	128.1	138.5	148.9
Other	191.2	216.4	234.3
All other expenses	188.2	177.2	215.8
Total expenditure—Australia	*1,358.7*	*1,499.3*	*1,688.8*
Expenditure—overseas			
Payments on policies	143.4	150.8	187.7
Expenses of management	64.8	76.8	88.3
All other expenditure	283.5	59.0	27.9
Total expenditure—overseas	*491.7*	*286.6*	*303.9*
Total expenditure	**1,850.4**	**1,785.9**	**1,992.7**
Balance of account at end of year—Australia and overseas	*10,547.0*	*11,536.7*	*12,694.8*
Total	**12,397.4**	**13,322.6**	**14,687.5**

LIFE INSURANCE OFFICES: NEW LOANS PAID OVER(*a*) BY CLASS OF SECURITY

($ million)

Class of security	*1975*	*1976*	*1977*
Mortgage of real estate	120.3	155.8	144.4
Companies policies	56.7	57.4	68.6
Other	26.0	18.8	54.7

(*a*) Excludes advances on premiums.

LIFE INSURANCE: SUMMARY

	Insurance and endowment policies			*Annuity policies*	
	Number of policies	*Sum insured ($ million)*	*Annual premiums ($ million)*	*Number of policies*	*Annuities per annum ($ million)*
ORDINARY BUSINESS					
New policies issued—					
1975	488,429	7,917.6	100.7	13	0.1
1976	465,729	9,116.2	101.4	37	0.1
1977	443,759	10,347.8	104.3	12	..
Policies discontinued or reduced(*a*)—					
1975	470,833	3,439.6	56.2	140	0.1
1976	514,780	4,455.0	73.5	101	0.1
1977	481,507	4,550.5	74.0	93	0.2
Policies existing at end of—					
1975	5,890,704	39,934.8	743.6	1,537	1.2
1976	5,841,653	44,596.0	771.5	1,473	1.2
1977	5,803,905	50,393.3	801.8	1,392	1.1
INDUSTRIAL BUSINESS					
New policies issued—					
1975	63,043	188.5	6.2	..	..
1976	57,896	198.2	6.5	..	..
1977	49,080	184.1	6.1	..	..
Policies discontinued or reduced(*a*)—					
1975	207,109	166.1	6.1	..	..
1976	215,722	166.6	6.1	..	..
1977	204,904	187.7	6.8	..	..
Policies existing at end of—					
1975	2,030,181	1,602.5	58.9	..	..
1976	1,872,355	1,634.2	59.4	..	..
1977	1,716,531	1,630.6	58.7	..	..
SUPERANNUATION BUSINESS					
New policies issued—					
1975	115,937	6,919.4	176.7	27	27.7
1976	117,788	7,836.8	181.5	34	19.7
1977	110,667	8,467.7	201.8	31	20.1
Policies discontinued or reduced(*a*)—					
1975	82,091	2,750.2	65.8	132	12.2
1976	135,512	3,428.3	87.8	238	14.9
1977	105,282	3,856.4	101.1	51	22.4
Policies existing at end of—					
1975	697,232	20,961.0	553.3	908	71.2
1976	679,507	25,369.5	647.0	704	75.9
1977	684,892	29,980.8	747.6	684	73.7

(*a*) Includes policies matured, surrendered, forfeited, transferred to overseas registers, converted to other classes of business, etc.

PENSION AND SUPERANNUATION SCHEMES

Private superannuation, pension and retiring allowance schemes

Since 1965 surveys of selected private pension funds have been made, but, as the sample has not been rebased in the intervening period, it is not known to what extent those currently included in the sample represent the whole field.

The statistics do not relate to uniform accounting periods but to the balance dates of funds falling within the financial years shown.

SELECTED SEPARATELY CONSTITUTED PRIVATE PENSION FUNDS: ASSETS(a)

($ million)

	Cash in hand or in bank	Aust. Govt securities	Local and semi-government securities	Loans on mortgage		Company debentures, notes, etc(b)	Shares in companies	Land and buildings	All other assets (c)	Total assets	Less sundry creditors, etc.	Amount of funds in Australia
				To companies	Other							
1971–72 .	35.0	280.9	227.8	102.2	51.5	345.3	449.5	34.2	46.5	1,572.8	10.1	1,562.7
1972–73 .	36.2	311.3	235.8	137.9	35.7	371.1	506.7	43.7	70.1	1,748.4	12.8	1,735.7
1973–74 .	32.2	353.3	242.8	148.8	46.8	392.9	568.5	53.2	100.9	1,939.5	14.4	1,925.0
1974–75 .	41.8	401.4	254.9	173.6	39.8	431.9	614.7	74.2	137.5	2,169.7	13.7	2,156.0
1975–76 .	42.3	480.0	274.8	187.4	34.5	500.5	719.8	121.4	151.4	2,511.9	19.0	2,492.8
1976–77 .	28.8	567.8	306.2	191.2	37.0	515.1	885.9	177.3	191.7	2,901.0	22.3	2,878.7

(*a*) Book values at balance dates. (*b*) Includes other loans to companies. (*c*) Includes loans to authorised dealers in the short-term money market and loans to building societies.

SELECTED SEPARATELY CONSTITUTED PRIVATE PENSION FUNDS: INCOME AND EXPENDITURE

($ million)

INCOME

	Employees' contributions	Employers' contributions	Interest on Aust. Govt local and semi-government securities	Other interest dividends and rent	Profit from sale or revaluation of assets	Other income(a)	Total income
1971–72	48.0	91.7	30.6	56.0	16.2	9.0	251.5
1972–73	59.0	106.8	35.8	65.0	18.5	6.7	291.9
1973–74	68.0	146.4	33.6	79.9	8.8	5.1	341.8
1974–75	86.6	196.0	40.9	98.6	3.6	11.2	436.9
1975–76	102.1	245.8	48.1	116.2	15.6	35.6	563.4
1976–77	116.5	273.9	67.1	132.1	8.9	18.8	617.4

EXPENDITURE

	Pensions paid			Lump sum payments				Loss on sale or revaluation of assets	Other expenditure (b)	Total expenditure
				To former employees						
	Ex-employees	Widows or children	Total	On retirement	On resignation or dismissal	To widows or children	Total			
1971–72	28.6	4.4	33.0	31.3	20.0	4.6	55.9	3.4	5.3	97.3
1972–73	31.7	4.9	36.6	43.1	23.0	5.9	72.0	2.0	10.1	120.7
1973–74	36.8	5.6	42.4	45.3	27.3	5.9	78.5	19.3	10.5	150.7
1974–75	42.6	6.5	49.1	52.4	31.0	6.6	90.0	21.3	38.7	199.2
1975–76	48.6	7.4	55.9	64.6	33.3	8.2	106.1	3.1	43.9	209.0
1976–77	55.5	11.4	66.9	82.6	38.8	9.2	130.6	6.3	24.6	228.4

(*a*) Includes receipts from life insurance offices, sub-underwriting commissions, etc. (*b*) Includes administrative expenses payable from funds, payments to life insurance offices, etc.

Public authority pension and superannuation schemes

The Australian Government and all State Governments have established pension and superannuation schemes for their employees. These schemes are operated through funds to which both the Governments and their employees make contributions. Employees of local government and semi-government authorities are covered either by the Australian and State Government schemes or by a separate scheme of the authority which is operated either through a separately constituted fund or through a life insurance office.

The statistics below cover Parliamentary pension and superannuation schemes, coal and oil-shale mine workers' superannuation schemes and other schemes operated through separately constituted funds. For more detailed information on these schemes refer to the annual publication *Public Authority Pension and Superannuation Schemes, Australia* (5511.0).

PUBLIC AUTHORITY PENSION AND SUPERANNUATION SCHEMES OPERATED THROUGH SEPARATELY CONSTITUTED FUNDS

	1973–74	*1974–75*	*1975–76*
		$ million	
Income—			
Contributions—			
Employees	249.7	323.1	400.8
Employing authorities	279.5	356.9	472.0
Interest, dividends and rent	157.0	196.9	245.8
Transfers	10.2	8.3	8.8
Other income	10.9	14.4	31.2
Total income	**707.4**	**899.7**	**1,158.6**
Expenditure—			
Pensions	239.8	297.5	371.3
Lump sum payments—			
On retirement, death, resignation or dismissal(*a*)	131.3	198.7	200.2
Gratuities	2.3	3.7	3.5
Other expenditure	23.3	53.0	35.5
Total expenditure	**396.6**	**552.9**	**610.0**
Assets at end of year—			
Cash—			
Deposits with Treasury	95.6	113.4	139.0
Other deposits and cash	92.0	88.9	163.0
Australian Government securities	177.1	204.6	255.4
Local and semi-government securities	1,289.6	1,369.5	1,508.8
Mortgages—			
Housing	62.6	70.5	89.5
Other	443.4	527.3	562.5
Loans to building societies	48.6	56.1	75.1
Company shares, debentures and notes	248.6	310.0	290.7
Other assets	174.7	244.2	467.3
Total assets(*b*)	**2,632.2**	**2,984.6**	**3,551.2**
Less Sundry creditors, etc.	64.7	63.8	68.9
Accumulated funds(*b*)	**2,567.4**	**2,920.8**	**3,482.8**
		No.	
Contributors at end of year	669,305	722,680	n.a.
Pensioners at end of year—			
Ex-employees	68,689	63,019	n.a.
Widows	44,256	36,844	n.a.
Children	5,403	3,656	n.a.

(*a*) Includes refunds of contributions to continuing members. (*b*) Includes assets of the Voluntary Savings Scheme of the State Superannuation Fund in South Australia.

PUBLIC AUTHORITY PENSION AND SUPERANNUATION SCHEMES OPERATED THROUGH LIFE INSURANCE OFFICES

		1973–74	*1974–75*	*1975–76*
Income—				
Contributions—				
Employees	$ million	12.3	16.4	20.9
Employing authorities	$ million	16.6	26.0	33.9
Contributors at end of year	No.	60,985	63,476	63,344

GENERAL INSURANCE

The following statistics have been compiled from returns collected under the *Census and Statistics Act* 1905 and relate to the operations of:

(*a*) *Bodies Corporate* authorised to carry on insurance business under the *Insurance Act* 1973 (*see* page 551);

(*b*) *Brokers* in respect of business placed with overseas insurers; and

(*c*) *Government instrumentalities*, i.e. State Government Insurance Offices and Australian Government and State Government instrumentalities in respect of their general insurance business.

These statistics are based on the following definitions:

Premiums comprise the full amount receivable in respect of direct insurance and facultative reinsurance business written or renewed during the year, less stamp duty and fire service charges paid and less returns, rebates and bonuses paid or credited to policy holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year.

Claims comprise, for direct insurance and facultative reinsurance business, payments made during the year plus the estimated amount of outstanding claims at the end of the year less the estimated amount of outstanding claims at the beginning of the year. Salvage and other amounts recoverable have been deducted.

Information contained in the following tables does not relate to uniform accounting periods but to the financial years of the organisations which ended during the years shown.

GENERAL INSURANCE: PREMIUMS AND CLAIMS BY PRINCIPAL CLASS OF BUSINESS

($ million)

Class of business	*1975–76(a)*	*1976–77(b)*	*1977–78*
PREMIUMS			
Fire(*c*)	297.9	315.2	330.8
House Owners' and House-holders'	195.8	214.0	254.5
Contractors' All Risks	14.8	20.1	25.0
Marine and Aviation	86.9	108.2	117.8
Motor Vehicle Comprehensive	595.4	722.4	780.6
Compulsory Third Party (Motor Vehicle)	446.0	529.9	577.4
Employers Liability(*d*)	942.3	903.4	903.2
Public Liability(*e*)	57.2	74.3	92.1
All other	190.8	232.6	273.8
Total	**2,827.1**	**3,120.1**	**3,355.2**
CLAIMS			
Fire(*c*)	129.9	137.8	132.9
House Owners' and House-holders'	97.9	123.5	153.3
Contractors' All Risk	11.3	11.0	11.6
Marine and Aviation	52.8	54.6	60.8
Motor Vehicle Comprehensive	386.2	444.8	545.4
Compulsory Third Party (Motor Vehicle)	427.4	485.1	562.3
Employers Liability(*d*)	583.4	639.5	658.2
Public Liability(*e*)	36.3	46.2	49.8
All other	80.3	99.6	132.4
Total	**1,805.8**	**2,042.1**	**2,306.7**

(*a*) Excludes stamp duty collected, but includes fire service charges. (*b*) Excludes both stamp duty and fire service charges collected. (*c*) Includes sprinkler leakage, crop, hailstone and loss of profits insurance. (*d*) Excludes workers' compensation insurance in the coal mining industry for N.S.W. (*e*) Includes product liability and professional indemnity insurance.

Summary information on foreign ownership and control of general insurance business is shown in Chapter 24. Overseas Transactions. More detailed statistics are available in *Foreign Control of General Insurance Business, Australia* 1975–76 (5326.0) and *Foreign Ownership and Control of General Insurance Business, Australia* 1972–73 (5309.0).

UNIT TRUSTS, LAND TRUSTS AND MUTUAL FUNDS

Statistics of operations of unit trusts, land trusts and mutual funds are shown below. Details of superannuation funds conducted by unit trust management companies are not included in these tables.

TRUSTS AND FUNDS: TOTAL MARKET VALUE AND TRANSACTIONS

($ million)

	Total market value at end of period(a)	Cash transactions—trust units and fund shares		Purchases and sales of investments(b)	
		Total amount received(c)	*Total amount paid(d)*	*Purchases (e)*	*Sales (f)*
1973–74	368.6	68.8	38.6	96.1	50.6
1974–75	356.0	36.9	47.8	38.7	49.4
1975–76	407.6	50.0	30.8	85.3	60.7
1976–77	417.5	48.1	34.4	79.4	69.5
1977–78	488.3	83.9	38.3	91.2	69.1
1978–79	615.7	155.5	37.7	169.3	80.9

(*a*) Includes value of land trusts at valuation. (*b*) Australian Government, local authority and semi-government securities, shares, debentures, unsecured notes, loans, deposits on term or notice of three months or longer, land and buildings, etc. (*c*) Includes re-issues and new issues. Includes fees and expenses. (*d*) Includes those units and fund shares intended for re-issue. (*e*) Payments for assets acquired during period. Includes brokerage and stamp duty. (*f*) Receipts for assets sold or redeemed during period. Excludes brokerage and stamp duty.

TRUSTS AND FUNDS: ANALYSIS OF PURCHASES AND SALES OF INVESTMENTS

($ million)

	Shares (incl. preference shares)	*Debentures, unsecured notes, deposits (a)*	*Land, buildings, mortgages*	*Other(b)*	*Total*
Purchases—					
1973–74	12.3	9.8	73.7	0.3	96.1
1974–75	14.8	8.6	15.2	0.1	38.7
1975–76	21.2	15.4	39.9	8.9	85.3
1976–77	13.4	12.5	52.3	1.1	79.4
1977–78	14.3	10.4	65.7	0.8	91.2
1978–79	13.2	18.5	136.7	0.9	169.3
Sales—					
1973–74	22.4	10.9	17.1	0.3	50.6
1974–75	14.2	10.7	24.4	0.1	49.4
1975–76	22.3	10.0	26.6	1.9	60.7
1976–77	23.4	17.4	27.3	1.5	69.5
1977–78	26.2	9.4	33.2	0.2	69.1
1978–79	25.8	19.6	34.8	0.6	80.9

(*a*) Excludes cash on hand and at bank, loans to authorised dealers in the short-term money market, and other deposits under three months' term or notice. (*b*) Includes Australian Government, local and semi-government securities.

AUSTRALIAN INDUSTRY DEVELOPMENT CORPORATION

The Australian Industry Development Corporation (AIDC) was established by the *Australian Industry Development Corporation Act* 1970 and commenced operations on 1 February 1971. Within the objectives and broad policy guidelines defined in the Act, the Corporation operates as an independent commercial enterprise governed by its own Board of Directors.

The Corporation has a capital of $100 million, to be subscribed by the Commonwealth Government in instalments but the whole being available if required to meet obligations. The paid-up capital at 30 June 1978 was $62.5 million.

The central objectives of the Corporation are to promote the development of industries in Australia and support local participation in the ownership and control of industries and resources. Consistent with these objectives and the principle that AIDC must operate on a commercial basis and assist only in ventures which can demonstrate sound prospects, the Corporation provides finance, obtained by borrowing both in Australia and overseas, for Australian firms (including local firms with foreign partners) engaged in industries concerned with the manufacture, processing, treatment, transportation or distribution of goods, or the development or use of natural resources (including the recovery of minerals), or technology and activities that are connected with or incidental to those industries.

The Corporation's financial participation in a venture is governed by the prevailing terms and conditions under which it can itself obtain loan finance. The capital of the Corporation is provided as a base for its borrowings and is not directly used for assistance to industry projects.

The AIDC provides development capital both for start-up situations and for going concerns. Although the greater part of its financing is by loans, it also makes equity investments in industry. Where a company's capital needs can best be met by loan finance, AIDC does not seek an equity position. It aims to avoid involvement in the management of companies to which it provides financing.

Project investments approved since operations commenced, totalled $454 million at 30 June 1978, and operational loans and investments outstanding were $213 million.

INSTALMENT CREDIT FOR RETAIL SALES

Information relating to instalment credit for retail sales in Australia is given in the following tables. More detailed information may be found in the monthly publication *Instalment Credit for Retail Sales, Australia* (5631.0).

These statistics cover the operations of instalment credit schemes which relate primarily to the financing of retail sales of consumer commodities. In general, the term instalment credit is defined as relating to schemes in which repayment is made by regular predetermined instalments (predetermined by amount or by percentage of amount financed or balance outstanding). Types of instalment credit schemes covered include hire purchase, time payment, budget accounts and personal loans where these schemes relate to the financing of retail sales of consumer commodities.

Figures for amounts financed exclude interest, hiring charges, insurance, etc. Figures for balances outstanding and collections include interest, hiring charges, insurance, etc.

The break in series in the following tables was due to the inclusion, from July 1978, of only those finance companies with balances outstanding (individually, or as a group of related finance companies) of $5 million or more. In previous years the size criteria for inclusion was balances outstanding of $500,000 or more. The impact of this change on the statistics was minimal.

INSTALMENT CREDIT FOR RETAIL SALES BY TYPE OF BUSINESS: AMOUNT FINANCED BY COMMODITY GROUP, COLLECTIONS AND BALANCES OUTSTANDING, AUSTRALIA

($ million)

	Amount financed during year					*Collections and other liquidations of balances during year*	*Balances outstanding at end of year*
	Motor cars and station wagons		*Other motor vehicles (a)*	*Household and personal goods*	*Total*		
	New	*Used*					
Finance companies—							
1976-77	420.0	591.3	182.4	336.6	1,530.3	1,825.5	2,601.1
1977-78	399.8	640.0	164.5	312.6	1,516.9	1,990.8	2,804.0
1978-79	389.6	684.2	164.6	307.9	1,546.3	2,146.7	2,898.2
Other businesses(*b*)—							
1976-77	0.5	0.3	3.5	254.3	258.7	293.5	161.8
1977-78	0.1	0.1	0.4	230.4	231.0	263.4	150.4
1978-79	..	0.1	0.4	200.8	201.3	232.7	135.8
Total all businesses—							
1976-77	**420.6**	**591.6**	**185.9**	**591.0**	**1,789.0**	**2,119.0**	**2,762.9**
1977-78	**400.0**	**640.1**	**164.9**	**543.0**	**1,747.8**	**2,254.2**	**2,954.4**
1978-79	**389.6**	**684.3**	**165.0**	**508.7**	**1,747.7**	**2,379.4**	**3,033.9**

(*a*) Includes new and used motor cycles, boats, caravans, trailers and motor parts and accessories but excludes panel vans, utilities, trucks, tractors and other vehicles normally used for commercial purposes. (*b*) Businesses operating retail establishments, unincorporated finance businesses and businesses other than wholesalers and manufacturers.

INSTALMENT CREDIT FOR RETAIL SALES BY TYPE OF CREDIT: AMOUNT FINANCED BY COMMODITY GROUP, AUSTRALIA

($ million)

	Motor cars and station wagons		*Other motor vehicles (a)*	*Household and personal goods*	*Total*
	New	*Used*			
Hire purchase—					
1976–77	304.1	424.3	136.8	161.9	1,027.1
1977–78	306.5	481.1	124.4	141.1	1,053.1
1978–79	303.4	534.0	124.8	132.9	1,095.2
Other instalment credit—					
1976–77	116.5	167.3	49.2	429.0	761.9
1977–78	93.4	159.0	40.4	401.9	694.7
1978–79	86.2	150.3	40.2	375.8	652.5
Total instalment credit—					
1976–77	**420.6**	**591.6**	**185.9**	**591.0**	**1,789.0**
1977–78	**400.0**	**640.1**	**164.9**	**543.0**	**1,747.8**
1978–79	**389.6**	**684.3**	**165.0**	**508.7**	**1,747.7**

(*a*) Includes new and used motor cycles, boats, caravans, trailers and motor parts and accessories but excludes panel vans, utilities, trucks, tractors and other vehicles normally used for commercial purposes.

HOUSING FINANCE FOR OWNER OCCUPATION

A monthly statistical series was introduced in October 1975 to provide information on finance (secured by mortgage or other security, including secured personal loans and loans secured by contracts of sale) approved by significant lenders to individuals for the construction or purchase of dwellings for owner occupation. A lender is significant if over a financial year it approves loans to individuals for housing finance for owner occupation in excess of $250,000 or if at the end of a financial year it has balances outstanding on such loans exceeding $2 million.

The types of lenders considered in these statistics are trading and savings banks, permanent and terminating building societies, finance companies, government housing authorities and other government departments, insurance companies and credit unions.

The table on page 574 provides information classified by type of lender and the use for which approved housing loans are intended (e.g. construction or purchase).

Purchase of newly erected dwellings represents the purchase of dwellings which have been completed or will be completed within a period of twelve months preceding the date of purchase and where the purchaser is, or will be, the first occupant.

Purchase of established dwellings represents the purchase of dwellings which have been completed for a period of greater than twelve months preceding the date of purchase or, if completed within twelve months, where the purchaser is not the original occupant.

The term *dwelling* includes houses and other dwellings where the latter is defined as a self-contained dwelling unit other than a house. (Examples of *other dwellings* are flats, home units, semi-detached cottages, villa units, town houses, etc.).

The term *number of dwelling units* refers to the number of houses and other dwellings for which loans secured by contract of sale or first mortgage only have been approved.

Comprehensive statistics on housing finance for owner occupation are available in the monthly publication *Housing Finance for Owner Occupation, Australia* (5609.0).

The following table summarises the housing finance operations of the significant lenders.

HOUSING FINANCE FOR OWNER OCCUPATION

($ million)

	Loans approved for—				
	Construction or purchase of dwellings	*Alterations and additions*	*Cancellations of loans previously approved*	*Loans advanced(a)*	*Loans approved but not advanced(a)*
1976–77	5,211.5	344.0	250.5	4,473.1	936.0
1977–78	5,535.5	379.7	258.5	4,761.8	973.3
1978–79	6,472.0	398.1	283.4	5,455.5	1,112.8
Quarter ended—					
March 1978	1,360.4	91.5	63.5	1,072.9	985.8
June 1978	1,409.4	98.2	61.8	1,234.5	973.3
September 1978	1,480.9	102.5	62.0	1,232.1	1,031.1
December 1978	1,609.9	94.5	63.7	1,391.6	1,048.0
March 1979	1,729.8	98.5	76.2	1,328.3	1,196.4
June 1979	1,651.4	102.5	81.5	1,503.5	1,112.8

(*a*) Excludes Trading Banks; data not available.

HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER OF DWELLING UNITS FOR WHICH LOANS WERE APPROVED TO INDIVIDUALS BY TYPE OF LENDER

	Banks		*Building societies*					
	Savings	*Trading*	*Permanent*	*Terminating*	*Finance companies*	*Government*	*Credit unions and insurance companies*	*Total*
CONSTRUCTION OF DWELLINGS								
1976-77	18,795	8,948	8,427	2,884	2,988	2,420	1,384	45,846
1977-78	18,726	7,564	8,904	2,712	2,391	1,861	1,147	43,305
1978-79	20,080	8,753	10,107	2,505	2,084	1,553	1,334	46,416
Quarter ended—								
March 1978	4,117	1,837	1,972	559	534	296	241	9,556
June 1978	4,904	1,878	2,253	405	683	327	308	10,758
September 1978	5,068	2,089	2,527	335	592	276	397	11,284
December 1978	4,671	1,972	2,606	876	512	402	351	11,390
March 1979	4,764	2,350	2,424	751	534	395	266	11,484
June 1979	5,577	2,342	2,550	543	446	480	320	12,258
PURCHASE OF NEWLY ERECTED DWELLINGS								
1976-77	14,922	5,964	10,780	1,822	1,646	4,777	1,106	41,017
1977-78	12,845	5,945	10,396	3,118	1,969	5,652	1,011	40,936
1978-79	12,001	5,246	11,169	2,113	1,977	3,479	1,284	37,269
Quarter ended—								
March 1978	3,085	1,455	2,190	736	516	1,411	233	9,626
June 1978	2,999	1,485	2,467	1,123	472	1,192	311	10,049
September 1978	3,048	1,412	2,786	387	447	888	347	9,315
December 1978	3,044	1,287	2,857	778	403	869	333	9,571
March 1979	2,996	1,393	3,010	456	486	865	305	9,511
June 1979	2,913	1,154	2,516	492	641	857	299	8,872
PURCHASE OF ESTABLISHED DWELLINGS								
1976-77	73,023	26,306	45,227	4,421	7,207	8,377	3,470	168,031
1977-78	72,436	24,854	46,043	4,506	5,914	6,985	4,127	164,865
1978-79	79,330	29,953	54,507	3,122	7,660	6,212	6,127	186,911
Quarter ended—								
March 1978	18,817	6,901	10,432	937	1,396	1,671	978	41,132
June 1978	18,477	6,444	10,939	787	1,876	1,586	1,179	41,288
September 1978	18,403	6,793	12,364	448	1,833	1,668	1,657	43,166
December 1978	19,867	7,276	13,761	1,161	1,844	1,058	1,448	46,415
March 1979	20,885	8,419	15,264	758	1,718	1,651	1,454	50,149
June 1979	20,175	7,465	13,118	755	2,265	1,835	1,568	47,181

HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER OF DWELLING UNITS FOR WHICH LOANS WERE APPROVED TO INDIVIDUALS BY TYPE OF LENDER—*continued*

	Banks		*Building societies*					
	Savings	*Trading*	*Permanent*	*Terminating*	*Finance companies*	*Government*	*Credit unions and insurance companies*	*Total*
				TOTAL				
1976-77	106,740	41,218	64,434	9,127	11,841	15,574	5,960	254,894
1977-78	104,007	38,363	65,343	10,336	10,274	14,498	6,285	249,106
1978-79	111,411	43,952	75,783	7,740	11,721	11,244	8,745	270,596
Quarter ended—								
March 1978	26,019	10,193	14,594	2,232	2,446	3,378	1,452	60,314
June 1978	26,380	9,807	15,659	2,315	3,031	3,105	1,798	62,095
September 1978	26,519	10,294	17,677	1,170	2,872	2,832	2,401	63,765
December 1978	27,582	10,535	19,224	2,815	2,759	2,329	2,132	67,376
March 1979	28,645	12,162	20,698	1,965	2,738	2,911	2,025	71,144
June 1979	28,665	10,961	18,184	1,790	3,352	3,172	2,187	68,311

HOUSING FINANCE FOR OWNER OCCUPATION: VALUE OF LOANS APPROVED TO INDIVIDUALS BY TYPE OF LENDER

($ million)

	Banks		*Building societies*					
	Savings	*Trading*	*Permanent*	*Terminating*	*Finance companies*	*Government*	*Credit unions and insurance companies*	*Total*
			CONSTRUCTION OF DWELLINGS					
1976-77	354.1	134.6	212.2	60.1	85.1	48.9	32.5	927.4
1977-78	381.2	123.8	244.4	64.1	65.7	36.4	28.1	943.7
1978-79	463.0	165.7	293.2	63.7	62.1	34.9	32.9	1,115.5
Quarter ended—								
March 1978	85.2	31.1	53.4	13.7	13.9	5.8	6.5	209.7
June 1978	103.1	32.5	62.5	10.0	17.1	6.6	7.6	239.5
September 1978	112.8	39.4	71.0	8.7	16.8	5.7	9.6	264.0
December 1978	107.2	37.3	74.6	21.8	15.2	8.9	8.5	273.5
March 1979	111.7	43.8	71.6	19.0	16.8	9.2	6.5	278.5
June 1979	131.3	45.2	76.0	14.2	13.3	11.1	8.3	299.4
			PURCHASE OF NEWLY ERECTED DWELLINGS					
1976-77	280.1	90.8	275.8	37.8	77.1	94.7	27.1	883.3
1977-78	271.6	102.1	288.4	72.8	71.4	121.2	24.8	952.3
1978-79	275.5	100.2	337.3	52.8	66.0	81.2	30.9	943.8
Quarter ended—								
March 1978	66.8	26.7	61.9	17.8	16.1	30.4	5.4	225.1
June 1978	65.4	26.2	68.2	27.2	18.1	25.1	7.9	238.0
September 1978	68.9	25.8	80.6	9.5	16.3	19.6	8.1	228.8
December 1978	69.9	23.4	85.7	19.5	13.6	22.1	8.1	242.3
March 1979	69.6	29.1	92.9	11.4	15.6	20.5	7.7	246.9
June 1979	67.0	21.9	78.0	12.4	20.5	19.1	6.9	225.8
			PURCHASE OF ESTABLISHED DWELLINGS					
1976-77	1,362.9	419.2	1,066.6	92.4	213.9	154.2	91.6	3,400.8
1977-78	1,486.9	449.1	1,167.2	104.6	185.2	138.6	107.9	3,639.5
1978-79	1,794.1	549.7	1,465.9	78.1	239.5	139.9	145.6	4,412.8
Quarter ended—								
March 1978	395.7	130.3	271.1	22.3	45.3	34.4	26.6	925.6
June 1978	394.0	120.7	280.7	19.0	55.6	30.7	31.0	931.9
September 1978	400.8	125.5	322.2	11.0	57.0	34.4	37.3	988.1
December 1978	450.4	130.1	367.1	28.7	58.1	27.2	32.5	1,094.1
March 1979	481.4	158.8	417.8	19.0	53.5	38.7	35.1	1,204.4
June 1979	461.5	135.3	358.7	19.4	70.8	39.7	40.8	1,126.2

HOUSING FINANCE FOR OWNER OCCUPATION: VALUE OF LOANS APPROVED TO INDIVIDUALS BY TYPE OF LENDER—*continued*

($ million)

	Banks		*Building societies*					
	Savings	*Trading*	*Permanent*	*Terminating*	*Finance companies*	*Government*	*Credit unions and insurance companies*	*Total*
				TOTAL				
1976–77	1,997.0	644.6	1,554.5	190.3	376.1	297.8	151.1	5,211.5
1977–78	2,139.8	675.0	1,700.0	241.5	322.2	296.2	160.8	5,535.5
1978–79	2,532.6	815.6	2,096.3	194.5	367.5	256.1	209.4	6,472.0
Quarter ended—								
March 1978	547.8	188.1	386.5	53.8	75.3	70.6	38.4	1,360.4
June 1978	562.5	179.4	411.4	56.3	90.9	62.4	46.4	1,409.4
September 1978 . .	582.6	190.8	473.8	29.2	90.1	59.6	54.9	1,480.9
December 1978 . .	627.5	190.7	527.4	70.0	86.9	58.1	49.1	1,609.9
March 1979	662.7	231.7	582.4	49.4	85.9	68.4	49.3	1,729.8
June 1979	659.7	202.4	512.7	46.0	104.6	69.9	56.0	1,651.4

NEW CAPITAL RAISINGS BY COMPANIES LISTED ON AUSTRALIAN STOCK EXCHANGES

Information relating to capital raised by companies listed on Australian Stock Exchanges is given in the following tables.

These statistics cover capital raised through share and debenture subscriptions and by way of deposits, unsecured notes and loans secured over the entire assets of the company. The following funds are excluded from the collection: (i) all capital raised from Australian banks (other than direct equity investment), i.e. overdrafts, mortgage loans, term loans or debentures; (ii) temporary advances or short-term deposits from any source; and (iii) complete or partial issues by Australian companies on overseas markets taken up through overseas brokers.

Listed companies are companies incorporated in Australia whose shares, debentures or other securities are listed on one or more of the Australian Stock Exchanges. For such companies new capital includes: (a) all issues of ordinary shares if any ordinary shares are listed; (b) all issues of preference shares if any preference shares are listed; and (c) all issues of debentures, unsecured notes, secured and unsecured loans and deposits if any shares or other securities are listed.

The following notes relate to specific items in the tables:

New money

This is the net amount of cash transferred from the 'investing public' to the 'company sector'. For this purpose the *investing public* is defined to include all non-company subscribers, Australian life insurance companies, Australian government and private superannuation funds and banks. In practice, it is necessary to include in *new money* most subscriptions by companies holding less than 5 per cent of the ordinary shares of an issuing company as it is not practicable to separately identify all such subscriptions. However, where large subscriptions by companies holding less than 5 per cent of the ordinary shares in the issuing company are identified they are not included in *new money*. Subscriptions by Australian life insurance companies and Australian government and private superannuation funds are included in *new money* irrespective of their holdings of ordinary shares in the issuing company.

Amount not involving new money

This amount includes cash subscriptions received by issuing companies from associated companies. Also included are amounts which, although subscribed by the 'investing public' (i.e. subscribers other than 'associated companies'), are not retained by the issuing company or its associates, but are used to redeem shares, debentures or unsecured notes, etc., or are used to purchase from individuals existing shares, debentures, etc., in other companies, including existing shares, etc. in associated and subsidiary companies, and therefore do not represent a net transfer of cash from the 'investing public' to the companies. In the tables which follow, the *amount not involving new money* is obtained by deducting from the total cash raised the amount of *new money*.

LISTED COMPANIES: NEW CAPITAL RAISED THROUGH ISSUES OF SHARES(*a*) AND THROUGH DEBENTURES, REGISTERED NOTES, LOANS AND DEPOSITS

($ million)

	Share capital						*Debentures, registered notes, etc.*		
	Total amount of issues commenced			*Cash raised during period*					
	Total amount including premiums etc.	*Type of consideration*							
		Other than cash(b)	*Cash*	*Total(c)*	*Amount not involving new money*	*New money*	*Total amount raised (d)*	*Amount not involving new money (d)*	*New money*
1973–74	973.8	610.3	363.4	382.0	116.5	265.6	6,794.5	5,505.6	1,288.9
1974–75	399.4	122.3	277.1	296.7	125.6	171.1	6,310.6	5,362.0	948.6
1975–76	513.3	129.8	383.5	387.7	55.3	332.3	5,046.7	3,952.2	1,094.4
1976–77	832.5	278.9	553.6	524.3	53.0	471.3	7,488.7	6,279.0	1,209.6
1977–78	793.3	295.1	498.0	539.3	189.7	349.6	6,734.8	5,615.7	1,119.3
1978–79	920.8	372.9	547.8	514.4	185.1	329.4	7,534.6	6,582.9	951.7

(*a*) Includes share subscriptions by overseas investors to issues in Australia. (*b*) Includes bonus issues, conversion issues, issues in exchange for existing shares, etc. (*c*) Includes calls on issues commenced in earlier years. (*d*) Includes conversions, renewals, etc.

LISTED COMPANIES: NEW MONEY RAISED IN SHARE CAPITAL AND DEBENTURES, REGISTERED NOTES, LOANS AND DEPOSITS—INDUSTRY GROUPS

($ million)

		1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Manufacturing(*a*)	*Total*	*112.4*	*452.2*	*257.1*	*329.1*	*276.9*	*420.5*
Raised through	Shares	82.9	84.3	115.0	181.7	142.3	95.8
	Debentures, etc	29.5	368.1	142.1	147.4	134.6	324.7
Finance and Property(*b*)	*Total*	*1,344.8*	*439.6*	*921.8*	*1,151.9*	*1,008.2*	*733.2*
Raised through	Shares	119.9	18.1	68.5	212.2	100.9	74.3
	Debentures, etc.	1,224.8	421.6	853.3	939.7	907.3	658.9
Commerce(*c*)	*Total*	*35.6*	*125.2*	*78.3*	*40.8*	*92.4*	*17.7*
Raised through	Shares	20.6	36.0	57.5	9.5	41.9	9.9
	Debentures, etc.	15.0	89.2	20.8	31.3	50.5	7.8
Other Industries(*d*)	*Total*	*62.0*	*102.5*	*169.5*	*159.1*	*91.1*	*109.5*
Raised through	Shares	42.4	32.7	91.3	68.1	64.5	149.4
	Debentures, etc.	19.5	69.8	78.2	91.0	26.6	(*e*)-39.9
All Industries	**Total**	**1,554.5**	**1,119.7**	**1,426.7**	**1,680.9**	**1,468.9**	**1,281.1**
	Shares	*265.6*	*171.1*	*332.3*	*471.3*	*349.6*	*329.4*
	Debentures, etc.	*1,288.9*	*948.6*	*1,094.4*	*1,209.6*	*1,119.3*	*951.7*

(*a*) Includes extracting, refining, founding, engineering, metalworking, electrical equipment, etc., vehicles, aircraft and ships, parts and accessories, assembly and repairs. (*b*) Includes share capital raised by banks and insurance companies. (*c*) Includes oil distribution and primary produce dealing. (*d*) Includes primary production, mining and quarrying. (*e*) Excess of repayments over receipts.

LOTTERIES AND BETTING

Lotteries

The State Governments of New South Wales, Queensland, South Australia and Western Australia operate lotteries in their own States. Tattersall Sweep Consultations operate under government licence in Victoria and also sell tickets under government licence in Tasmania and New Zealand. Tickets for any of these lotteries may also be sold in the Northern Territory and the Australian Capital Territory. The statistics of sales of tickets and prizes include the sales and allotments of prizes in New Zealand, Tasmania, the Northern Territory and the Australian Capital Territory. In general, revenue derived by the State Governments from these lotteries is used directly or indirectly to provide funds for expenditure on hospitals, charities, etc.

LOTTERIES: VALUE OF TICKET SALES, PRIZES ALLOTTED, TAXES PAID AND OTHER NET CONTRIBUTIONS TO STATE GOVERNMENT REVENUES

($ million)

	Ticket sales	*Prizes allotted*	*Taxes and other net contributions to State Government revenues(a)*
1977-78			
New South Wales	101.4	65.5	36.0
Victoria	238.2	142.9	74.3
Queensland	37.2	23.6	8.8
South Australia	25.0	15.3	7.9
Western Australia	22.7	14.0	5.9
Total	**424.5**	**261.3**	**133.0**
1976-77	364.8	224.5	113.7
1975-76	289.5	176.9	90.9
1974-75	227.2	140.2	60.4
1973-74	159.7	98.4	40.7
1972-73	130.0	79.7	32.1

(*a*) Includes grants to Tasmanian and New Zealand Governments by Tattersalls Sweep Consultations, Victoria.

Betting

TOTALISATOR INVESTMENTS AND INVESTMENTS WITH LICENSED BOOKMAKERS

($ million)

	1975-76		*1976-77*		*1977-78*	
	T.A.B.	*Book-makers*	*T.A.B.*	*Book-makers*	*T.A.B.*	*Book-makers*
New South Wales	741.0	590.0	796.2	601.7	931.6	665.7
Victoria	571.6	396.0	636.8	450.2	672.0	476.9
Queensland	218.4	293.0	229.5	340.5	235.2	346.3
South Australia	104.7	152.7	116.9	174.4	118.0	184.6
Western Australia	173.7	71.2	188.3	73.3	209.7	91.1
Tasmania	27.4	42.0	33.3	47.7	39.4	45.5
Australian Capital Territory	25.6	18.9	25.3	20.4	27.7	19.9
Total	**1,862.3**	**1,563.9**	**2,026.3**	**1,708.0**	**2,233.5**	**1,830.0**

RELATED PUBLICATIONS

Current and more detailed information on the subjects dealt with in this chapter is contained in the following publications:

Monthly Summary of Statistics, Australia (1304.0) *Public Authority Pensions and Superannuation Schemes* (5511.0) (annual) *Savings Banks* (5602.0) (monthly) *Major Trading Banks* (5603.0) (monthly) *Banking* (5605.0) (quarterly) *Housing Finance for Owner Occupation, Savings Banks and Trading Banks* (5608.0) (monthly) *Housing Finance for Owner Occupation* (5609.0) (monthly) *Housing Finance for Owner Occupation, Permanent Building Societies* (5610.0) (monthly) *Finance Companies, Australia* (5614.0) (monthly) *Finance Companies: Assets, Liabilities, Income and Expenditure* (5616.0) (annual) *Financial Corporation Statistics* (5617.0) (monthly) *Credit Unions: Assets, Liabilities, Income and Expenditure* (5618.0) (annual) *General Insurance* (5620.0) (annual) *Life Insurance* (5621.0) (monthly) *Life Insurance* (5622.0) (annual) *Survey of Selected Private Pension Funds* (5623.0) (annual) *Unit Trusts, Land Trusts and Mutual Funds* (5624.0) (quarterly) *New Capital Raisings by Companies Listed on Australian Stock Exchanges* (5628.0) (quarterly) *Instalment Credit for Retail Sales* (5631.0) (monthly) *Permanent Building Societies: Assets, Liabilities, Income and Expenditure* (5632.0) (annual) *Terminating Building Societies: Assets, Liabilities, Income and Expenditure* (5633.0) (annual).

CHAPTER 22

PUBLIC FINANCE

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PUBLIC FINANCE

This chapter deals with the financial activities of the organisations which make up the three levels of government in the Australian political system—Commonwealth, State and Local—and which collectively constitute the public sector. An account is given of the activities of each level of government, with particular emphasis being given to Commonwealth authorities. Tables are then presented which bring together the transactions of all public authorities to highlight the role in the Australian economy of the public sector as a whole. Then follows a section on government borrowing activities at all levels.

COMMONWEALTH GOVERNMENT FINANCE

Financial provisions of the Constitution

The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth of Australia are contained in Sections 81 to 105A of the Commonwealth Constitution (*see* pages 18–21 of Year Book No. 62).

Two other sections which have a most important bearing on questions of Commonwealth finance are Sections 69 and 51. Section 69 provides for the transfer from the States to the Commonwealth of certain specified departments, and Section 51, in outlining the powers of the Commonwealth Parliament, implies the transfer or creation of other departments.

Sections 87 and 96 of the Constitution deal with the financial relations between the Commonwealth and the States. The full text of the Financial Agreement of 1927 was given in Year Book No. 31, page 21; accounts of this Agreement as affected by subsequent Agreements were included in later issues of the Year Book up to No. 37 (*see* pages 685–90); details of the main provisions appeared in further issues of the Year Book up to No. 50 (*see* pages 952–3); and details of current provisions for financial assistance to the States are given on pages 592-7 of this Year Book.

The *Audit Act* 1901 lays down the procedure which must be followed in accounting for the receipt and disbursement of public funds. The general administration of Commonwealth Government finances is the responsibility of the Commonwealth Minister for Finance.

Commonwealth Government Budget

The Commonwealth Government Budget records the transactions of those authorities of the Commonwealth Government whose receipts and payments are summarised in the statements of Public Account balances. In 1978–79 the change in cash balances was represented by the following—

	$'000
Cash receipts of the Consolidated Revenue Fund	25,483,991
plus cash receipts of Loan Fund	18,733,219
plus cash receipts of Trust Fund	9,988,088
Total	*54,205,298*
less cash payments from Consolidated Revenue Fund	25,483,991
less cash payments from Loan Fund	18,411,176
less cash payments from Trust Fund (including increase in investments of the Trust Fund)	9,833,651
Total	*53,728,818*
equals decrease in cash balances	476,480

Revenues from taxation and other sources are paid into the Consolidated Revenue Fund, from which the main expenditures are for defence, social services, payments to the States and general administration. The Trust Fund covers special transactions outside the ordinary operations of departmental expenditures, such as pension funds and moneys held for expenditure by the Commonwealth Government at some future time. The Loan Fund receives its funds from the sale of Commonwealth Government securities, and the expenditures from the Fund are made in accordance with the purpose of issue of each loan. The main disbursements from the Loan Fund are to the States by way of distribution of the proceeds of loans raised by the Commonwealth Government on their behalf and by capital assistance grants, the remaining disbursements being mainly for Commonwealth Government purposes.

The receipts and outlay of the Budget for 1979-80 are set out in the table which follows, together with figures for the years 1974-75 to 1978-79. The national accounting presentation of the Budget is shown in order to be consistent with other transactions figures given in this chapter.

It should be noted that some transactions undertaken by authorities covered by the Budget are not reflected in the change in cash balances, usually because they are not cash transactions or because a receipt and a payment are offset against each other so that only a net amount is included in published totals. The national accounting presentation of the Budget includes these additional transactions, further details of which may be found in Budget Paper No. 10, *National Accounting Estimates of Receipts and Outlays of Commonwealth Government Authorities.*

OUTLAYS AND RECEIPTS OF THE COMMONWEALTH BUDGET

($ million)

(*Source:* 1979-80 Budget Paper No. 10 *National Accounting Estimates of Receipts and Outlays of Commonwealth Government Authorities*)

	1974–75	*1975–76*	*1976–77*	*1977–78*	*1978–79*	*1979–80 Budget Estimates*
Outlay—						
Net expenditure on goods and services—						
Current	3,474	4,058	4,635	5,177	5,630	6,077
Capital(*a*)	404	564	520	451	331	329
Total	3,878	4,622	5,155	5,628	5,961	6,405
Transfer payments—						
Cash benefits to persons	4,320	6,089	7,388	8,277	9,105	9,968
Unfunded employee retirement benefits	88	106	121	139	162	180
Grants to States and local government authorities	5,178	7,091	7,661	8,738	9,349	10,351
Grants to the Northern Territory	–	–	–	53	290	362
Interest paid	888	968	1,412	1,649	1,971	2,180
Transfers overseas	349	370	388	417	477	500
Subsidies	228	254	220	322	363	559
Grants for private capital purposes	121	173	101	124	116	174
Purchase of existing assets	121	26	16	15	22	16
Total	11,293	15,077	17,307	19,735	21,856	24,289
Total expenditure	15,171	19,699	22,462	25,363	27,816	30,694
Net advances—						
States	1,225	1,372	1,278	1,261	1,129	817
Northern Territory	–	–	–	–	–2	79
Commonwealth authorities	1,165	708	303	101	66	117
Other sectors	278	81	79	76	35	–16
Total	2,669	2,161	1,660	1,438	1,228	998
Total outlay	*17,839*	*21,861*	*24,123*	*26,802*	*29,045*	*31,692*
Receipts—						
Taxation—						
Indirect taxes	3,792	4,877	5,523	5,834	7,172	8,457
Income tax on companies	2,447	2,618	2,921	3,213	3,151	3,400
Income tax on persons	7,714	9,220	11,054	12,129	12,804	15,128
Estate and gift duties	80	86	87	102	83	41
Other direct taxes, fees, fines, etc.	23	11	14	15	24	30
Unfunded employee retirement contributions	35	40	52	61	63	63
Less remissions	7	8	8	8	8	1
Total	14,085	16,843	19,642	21,346	23,288	27,119
Other receipts—						
Interest, rent and dividends	1,175	1,405	1,627	1,812	1,922	2,048
Gross income of public enterprises	–5	–3	85	225	299	266
Net sales of existing assets(*b*)	18	30	30	86	58	66
Total	1,188	1,433	1,741	2,122	2,279	2,380
Total receipts	*15,273*	*18,276*	*21,383*	*23,468*	*25,567*	*29,499*
Deficit	**2,567**	**3,585**	**2,740**	**3,333**	**3,478**	**2,193**

(*a*) Expenditure on new fixed assets *plus* increase in stocks *less* sales of previously rented houses. (*b*) Excludes sales of previously rented houses. Includes sales from the Commonwealth's uranium stockpile in 1977–78 ($63.6m), 1978–79 ($33.2m) and 1979–80 ($37.5m).

Financing of the Commonwealth Government deficit

The deficit shown in the last line of the preceding table represents the net excess of Budget outlay over receipts. In other words, the estimated deficit shown for 1979–80 represents the Commonwealth Government budget sector's 'financing requirements'. Most such transactions involve the issue, repurchase, redemption or acquisition of Commonwealth Government securities, but some involve or are represented by changes in other assets or liabilities of the Commonwealth Government.

Specifically the deficit is financed as follows:

Net sales of Commonwealth Government securities (new issues *less* redemptions *less* net purchases from Commonwealth Government balances in the Trust Fund);

less net purchases of other investments from Commonwealth Government balances in the Trust Fund

plus minor items of indebtedness (such as borrowing by Australian Capital Territory housing trust account)

less net additions to cash balances, and funds provided for the International Monetary Fund and the Australian Wheat Board.

A table summarising the financial transactions of the Commonwealth Government budget sector for recent years is given on page 251 of Statement No. 6 attached to the *Budget Speech* 1979–80.

COMMONWEALTH AUTHORITIES

In addition to the group of authorities of the Commonwealth Government whose transactions are covered by the Budget (i.e. itemised in the Consolidated Revenue Fund, the Loan Fund, or recorded in a Trust Fund), there are a number of organisations owned or controlled by the Commonwealth Government whose transactions do not, for the most part, pass through the Public Account. This category includes public enterprises such as the Australian Postal Commission, Australian Telecommunications Commission, Overseas Telecommunications Commission, Qantas, Trans-Australia Airlines, the Australian Shipping Commission, the Snowy Mountains Hydro-electric Authority, the Reserve Bank and the Commonwealth Banking Corporation. Public enterprises, it should be noted, are bodies which aim at covering the bulk of their expenses by revenue either from sales of goods and services (trading enterprises), or by charges for services and net interest receipts (financial enterprises). As well as these enterprises, there are other public authorities which record most of their transactions outside the Public Account but have only minor independent sources of revenue and are financed almost entirely from funds voted to them each year from the Consolidated Revenue Fund. In order that the national accounting presentation may indicate as completely as possible the direct effect of the budget on demand, appropriations to this last group of authorities are treated as final expenditure in the Budget. Authorities in this category include the Australian Broadcasting Commission, Australian National University, National Capital Development Commission, and the Australian Atomic Energy Commission.

The transactions of Commonwealth Government bodies not covered by the Budget may be brought together and consolidated with the transactions recorded in the Budget to yield figures of the transactions of all Commonwealth Federal authorities. The remaining tables in this section have been prepared on that basis.

Public financial enterprises have been omitted from the consolidated accounts presented here largely on the ground that combining the income and outlay and capital financing transactions of the Reserve Bank, the publicly owned trading and savings banks, government insurance offices and other public financial institutions with the equivalent transactions of public trading enterprises and general government seems to provide a less meaningful account of public sector activity. For example, omission of the borrowing and lending activities of the government banks and the Reserve Bank allows attention to be centred on the borrowing and lending activities of general government and public trading enterprises, which are quite different in nature and economic effect from the financing activities of the banking system.

COMMONWEALTH AUTHORITIES
1977-78

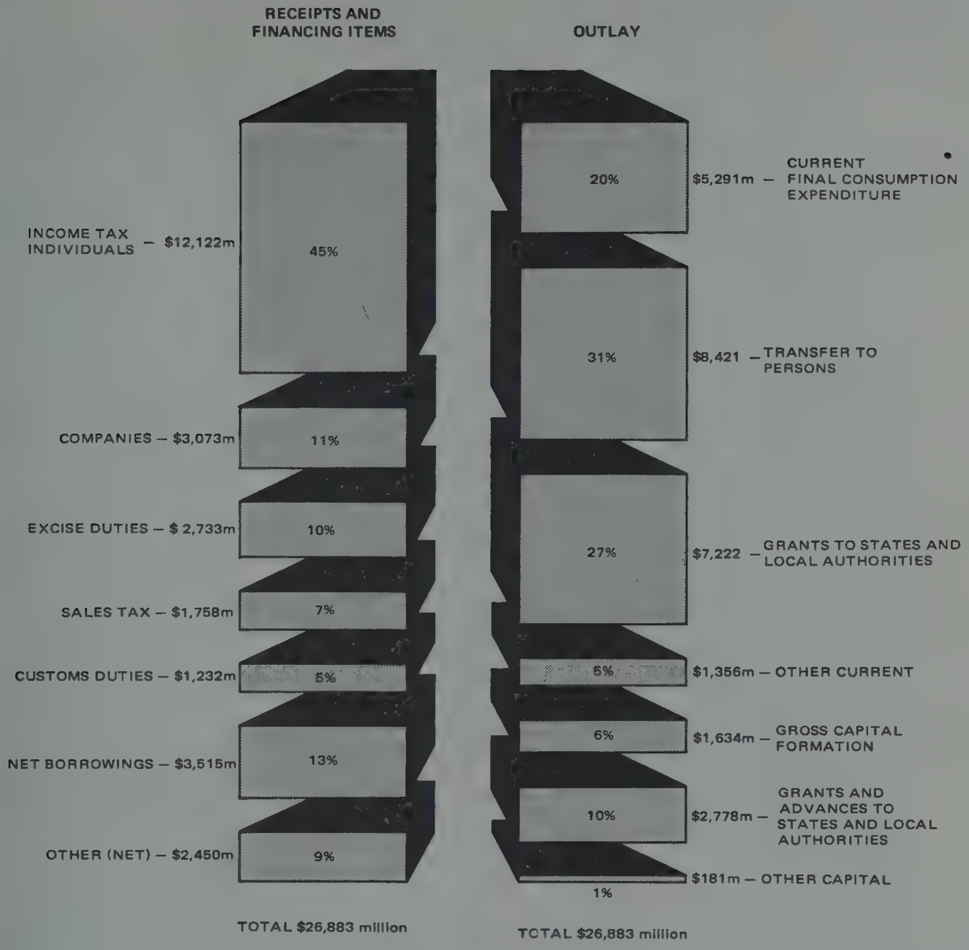


PLATE 43

Summary of receipts and outlay

The receipts and outlay, and outlay classified by purpose, of all Commonwealth authorities for the latest six-year period are given in the following tables.

COMMONWEALTH AUTHORITIES(*a*): RECEIPTS AND OUTLAY

($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	8,471	10,917	14,212	16,938	19,806	21,501
Income from public enterprises	308	284	246	432	657	819
Interest, etc., received	77	87	88	119	156	200
Total receipts	*8,856*	*11,288*	*14,545*	*17,489*	*20,618*	*22,520*
Financing items—						
Depreciation allowances	230	255	279	406	442	494
Net sale of securities—						
Treasury bills and notes	165	-38	1,689	-770	363	194
Commonwealth government securities	666	801	554	3,166	2,098	2,979
Public corporations securities	27	26	22	22	453	342
Net receipts of private trust funds	116	-90	83	217	60	152
Reduction in cash and bank balances	-265	-529	579	264	-301	210
Reduction in securities holdings	-87	-69	-511	568	169	-234
Other funds available (including errors and omissions)	35	263	118	79	208	227
Total financing items	*886*	*619*	*2,814*	*3,952*	*3,492*	*4,362*
Total funds available	**9,742**	**11,907**	**17,359**	**21,440**	**24,110**	**26,883**
OUTLAY						
Current outlay—						
Final consumption expenditure	2,370	2,736	3,552	4,155	4,736	5,291
Interest, etc., paid	15	7	108	117	408	559
Transfers to persons—						
Cash benefits	2,533	3,078	4,322	6,091	7,390	8,281
Unfunded employee retirement benefits	..	65	88	106	121	139
Subsidies	323	300	284	271	287	380
Transfers overseas	252	288	349	370	388	417
Grants to States and local government authorities	2,077	2,534	3,780	5,524	6,115	7,222
Total current outlay	*7,568*	*9,008*	*12,484*	*16,634*	*19,445*	*22,289*
Capital outlay—						
Expenditure on new fixed assets	808	1,002	1,353	1,577	1,666	1,770
Expenditure on existing assets	-19	18	110	9	5	-16
Increase in stocks	-45	38	315	-75	-50	-119
Grants for private capital purposes	59	69	122	179	110	130
Grants to States and local government authorities	707	900	1,414	1,567	1,546	1,517
Advances to States and local government authorities	668	749	1,225	1,372	1,278	1,261
Advances to other sectors	-5	123	337	179	110	51
Total capital outlay	*2,174*	*2,899*	*4,875*	*4,806*	*4,665*	*4,594*
Total outlay	**9,742**	**11,907**	**17,359**	**21,440**	**24,110**	**26,883**

(*a*) Excludes financial enterprises.

COMMONWEALTH AUTHORITIES: OUTLAY, CLASSIFIED BY PURPOSE

($ million)

Purpose	*1975–76*		*1976–77*		*1977–78*	
General public services—						
General administration, n.e.c.	732.0		787.0		893.0	
External affairs	470.3		517.4		565.1	
Law, order and public safety	110.2		125.2		154.0	
General research	169.4		188.0		199.2	
Total general public services		*1,481.8*		*1,617.6*		*1,811.4*
Defence		1,852.4		2,181.3		2,375.3
Education—						
General administration, regulation and research	25.8		28.3		30.0	
Transportation of students	2.3		2.7		3.1	
Primary and secondary education	615.7		708.7		787.7	
Vocational training	101.5		123.2		143.4	
University education	597.9		719.2		781.0	
Other higher education	436.0		519.5		526.3	
Other education programs	126.8		128.8		141.4	
Total education		*1,906.1*		*2,230.4*		*2,412.9*
Health—						
General administration, regulation and research	106.8		118.7		106.6	
Hospital and clinical services	1,658.5		1,446.4		1,760.9	
Other health services	1,178.5		974.3		825.9	
Total health		*2,943.7*		*2,539.5*		*2,693.5*
Social security and welfare—						
General administration regulation and research	107.6		115.7		132.4	
Care of and assistance to—						
Aged persons	2,247.4		2,575.8		3,041.6	
Incapacitated and handicapped persons	473.8		589.9		689.0	
Unemployed and sick persons	776.0		745.8		942.0	
Ex-servicemen	598.6		694.4		834.8	
Widowed and deserted spouses	335.0		383.6		459.6	
Families and children	406.6		1,196.5		1,244.8	
Other social security and welfare services	67.4		55.6		64.2	
Total social security, etc.		*5,012.4*		*6,357.3*		*7,408.4*
Housing and community amenities—						
Housing	538.7		501.0		485.2	
Community and regional development	244.8		158.2		134.8	
Protection of the environment	155.0		87.2		20.4	
Community amenities, n.e.c.	0.3		0.4		0.4	
Total housing, etc.		*938.7*		*746.7*		*640.9*
Recreation and culture—						
General administration, regulation and research	0.2		0.2		0.1	
Cultural facilities	24.0		27.7		32.3	
Support of the creative and performing arts	20.9		21.7		23.0	
Broadcasting services and film production	174.7		174.2		176.1	
Recreational facilities and services	23.9		25.8		24.5	
Other programs	8.3		6.5		7.5	
Total recreation, etc.		*252.0*		*256.1*		*263.5*
Economic services—						
General administration, regulation and research	294.0		331.7		382.3	
Agriculture, forestry and fishing	209.2		256.3		374.9	
Mining, manufacturing and construction	192.7		121.5		51.7	
Electricity and water supply	76.6		82.0		55.3	
Transport and communication	1,699.3		1,804.4		1,941.2	
Other economic services	28.1		54.7		51.1	
Total economic services		*2,499.9*		*2,650.6*		*2,856.4*
Other purposes—						
General purpose inter-authority transfers	4,377.8		5,096.1		5,808.5	
Natural disaster relief	58.7		26.5		53.1	
Interest	116.9		408.2		558.9	
Total other purposes		*4,553.4*		*5,530.8*		*6,420.4*
Total outlay, all purposes		**21,440.4**		**24,110.2**		**26,882.6**
Of which—						
Current outlay		16,634.0		19,445.4		22,289.2
Capital outlay		4,806.4		4,664.8		4,593.4

Main components of outlay

The following tables give details of the main components of the outlay of Commonwealth authorities, i.e. final consumption expenditure, expenditure on new fixed assets, cash benefits, subsidies and payments to the States. More detailed information relating to outlay classified by economic type and purpose, and outlay under specific purpose headings such as education, social security and welfare, is given in *Commonwealth Government Finance* (5502.0). Additional details of public authorities' transactions engaged in particular fields of activity, e.g. health, may be found in the relevant chapters of this Year Book.

Final consumption expenditure and expenditure on new fixed assets

Final consumption expenditure consists of current expenditure on goods and services by public authorities other than those classified as enterprises, *less* any charges made for goods and services which they themselves provide. Expenditure on new fixed assets consists of purchases of new durable assets *less* sales of previously rented dwellings. Purchases of defence equipment are treated as current expenditure and expenditure on new construction and maintenance of roads is treated as capital. The following tables show dissections by purpose of final consumption expenditure and expenditure on new fixed assets for the six years ended 1977–78.

COMMONWEALTH AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE

($ million)

Purpose	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
General public services—						
General administration	333	431	556	665	728	844
External affairs	50	58	84	92	98	106
Law, order and public safety	36	48	73	98	112	138
General research	75	90	112	131	152	170
Total general public services	*494*	*628*	*825*	*986*	*1,090*	*1,258*
Defence	1,178	1,222	1,444	1,680	1,999	2,183
Education	79	109	167	199	240	264
Health	157	206	303	416	466	504
Social security and welfare	72	99	153	202	219	255
Housing and community amenities	16	27	43	54	40	34
Recreation and culture	99	135	180	203	213	226
Economic services—						
General administration, regulation and research	102	122	166	167	206	284
Agriculture, forestry, fishing	82	83	101	114	125	135
Mining, manufacturing and construction	12	14	18	17	21	29
Transport and communication	62	75	90	93	95	96
Other	16	15	19	19	21	22
Total economic services	*273*	*309*	*393*	*410*	*469*	*566*
Other purposes	–	1	43	5	–	–
Grand total	**2,370**	**2,736**	**3,552**	**4,155**	**4,736**	**5,291**

COMMONWEALTH AUTHORITIES: EXPENDITURE ON NEW FIXED ASSETS, CLASSIFIED BY PURPOSE

I. GENERAL GOVERNMENT

($ million)

Purpose	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
General public services—						
General administration	35.8	43.7	56.9	62.2	60.0	49.9
External affairs	15.4	12.3	15.9	20.3	25.5	24.4
Law, order and public safety	2.9	3.2	7.2	9.4	10.9	14.6
General research	9.4	15.1	20.6	32.1	23.6	18.0
Total general public services	*63.5*	*74.2*	*100.5*	*124.0*	*120.1*	*107.0*
Education	30.1	32.1	45.1	73.4	62.2	54.2
Health	19.4	22.0	40.3	57.7	58.3	53.4
Social Security and welfare	2.5	10.7	8.7	12.9	8.5	6.7
Housing and community amenities	26.4	38.9	68.8	131.1	112.1	61.3
Recreation and culture	13.6	21.8	31.3	32.1	29.7	25.9
Economic services—						
General administration, regulation and research	4.6	3.3	3.9	6.4	8.8	6.1
Agriculture, forestry, fishing	16.4	9.3	12.6	10.6	8.1	16.0
Mining, manufacturing and construction	0.5	0.8	1.9	1.8	1.0	1.2
Transport and communication	45.2	43.9	56.7	57.5	46.0	73.6
Other economic services	0.1	0.1	–	0.1	–	0.4
Total economic services	*66.9*	*57.4*	*75.2*	*76.3*	*63.8*	*97.3*
Other purposes	–	–	6.5	5.1	–	–
Total general government	*222.3*	*257.2*	*376.5*	*512.7*	*454.6*	*405.7*

II. PUBLIC ENTERPRISES

($ million)

Purpose	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Public trading enterprises—						
General public services	1.6	0.7	1.5	1.5	0.9	–0.2
Housing and community amenities—Housing	3.9	0.1	8.6	16.8	22.4	15.8
Sewerage and drainage	5.4	8.0	15.6	24.8	28.8	14.8
Economic services—						
Technical services, n.e.c.	0.4	0.4	0.6	0.2	0.2	0.5
Manufacturing activities	1.9	1.6	4.9	11.6	5.8	5.5
Electricity, water supply	26.9	28.8	26.2	31.6	48.5	52.0
Transport and communication—						
Air transport	41.8	69.5	70.5	67.5	41.0	145.8
Rail transport	10.6	7.5	13.6	45.5	35.9	40.2
Sea transport	20.9	10.5	55.9	46.7	137.3	139.0
Urban transit systems	2.0	2.7	3.3	5.7	1.6	7.2
Pipelines	10.4	56.0	56.5	51.3	18.2	2.1
Communications services	460.1	558.8	717.7	756.3	855.1	913.4
Total	*545.7*	*704.9*	*917.5*	*973.1*	*1,089.3*	*1,247.8*
Other economic services	0.3	0.1	1.8	4.5	15.3	27.6
Total public trading enterprises	*586.0*	*744.6*	*976.7*	*1,064.0*	*1,211.2*	*1,363.8*

Cash benefits to persons

Total payments of cash benefits to persons during the latest six years are shown in the next table. Further information relating to items in this table is given in the appropriate chapters of this Year Book.

COMMOMWEALTH AUTHORITIES: CASH BENEFITS TO PERSONS
($'000)

	1972-73	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*
General public services—						
General research—						
Queen Elizabeth fellowships	330	451	473	584	528	567
Assistance to inventors	–	–	–	20	32	33
Defence—						
Special pensions to ex-servicemen	2	2	–	–	–	–
Education	74,036	93,764	124,273	162,455	193,970	212,647
Health	581,283	659,003	817,015	1,369,405	1,140,399	1,010,432
Social security and welfare	1,869,973	2,316,407	3,354,893	4,506,592	6,031,946	7,031,002
Recreation—						
Overseas study fellowships	–	–	–	193	190	102
Economic services—						
General administration, regulation and research—						
Hostel tariffs of unemployed migrants	252	290	289	148	195	728
Maintenance of migrant families	4,385	4,425	6,029	6,498	6,035	5,510
Stevedoring industry—attendance money, etc.	1,362	1,606	2,126	2,692	2,305	988
Widows' training scheme	516	875	863	47	21	–
Tertiary education assistance to ex-servicemen	814	820	421	–	–	–
National employment training scheme	–	–	10,590	31,056	12,809	16,163
Apprenticeship training	–	–	–	8,662	1,738	2,966
Other	10	12	3	–	–	–
Total	*7,338*	*8,027*	*20,321*	*49,103*	*23,103*	*26,355*
Agriculture, forestry, fishing—						
War service land settlement—rent remissions, etc.	50	13	12	6	1	–
Allowances to agricultural trainees	–	66	49	–	–	–
Total	*50*	*79*	*61*	*6*	*1*	–
Mining, manufacturing and construction—						
Joint Coal Board—Welfare fund	40	36	5	4	4	3
Total economic services	*7,428*	*8,142*	*20,387*	*49,113*	*23,108*	*26,358*
Other purposes	–	–	*5,217*	*2,882*	*201*	*2*
Total	**2,533,052**	**3,077,769**	**4,322,258**	**6,091,244**	**7,390,374**	**8,281,143**

Subsidies

The following table shows details of Commonwealth Government outlay on subsidies and bounties. Other assistance to primary producers is included in, for example, tables relating to cash benefits and payments to the States, and additional information is given in Chapter 13, Agricultural Industries.

COMMONWEALTH AUTHORITIES: SUBSIDIES
($'000)

	1972-73	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*
General public services—						
Departmental cafeteria compensation	–	189	179	125	–	10
Health—						
Serum laboratories	607	681	1,542	1,242	250	1,200
Health insurance organisations subsidy	–	–	–	–	1,748	9,064
Total	*607*	*681*	*1,542*	*1,242*	*1,998*	*10,264*
Housing and community amenities—						
N.T. Housing Commission assistance	113	76	64	50	96	429
Recreation and related cultural services—						
Canberra Theatre Trust subsidy	38	67	120	143	167	199
Economic services—						
Assistance to employers—						
Stevedoring industry assistance	12,792	14,480	22,330	28,571	27,066	21,953
Apprenticeship training	1,209	6,130	16,551	26,215	37,750	24,312
Adjustment assistance for tariff reduction	–	131	–	–	–	–
Total	*14,001*	*20,741*	*38,881*	*54,786*	*64,816*	*46,265*

COMMONWEALTH AUTHORITIES: SUBSIDIES—*continued*
($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Assistance to agricultural and pastoral enterprises—						
Dairy products subsidy	28,500	18,000	9,000	1,275	–	5,250
Dairy industry stabilization	–	–	–	–	–	52,399
Wheat prices stabilisation payments	41,371	12,360	–	–	41,103	6,971
Reimbursement by wheat board	–	–	–	–	810	–
Phosphate fertilisers bounty	56,568	66,962	29,508	20,133	38,733	42,057
Nitrogenous fertilisers bounty	13,138	13,573	13,983	13,044	15,180	13,329
Processed milk products bounty	884	476	633	167	–	–
Poultry industry assistance	12,910	11,522	12,735	11,401	11,128	10,625
Dried vine fruits stabilisation payments	856	389	–	–	658	768
Wool marketing assistance	2,481	404	–	–	–	–
Apple and pear stabilisation payments	3,119	2,758	3,119	2,705	4,168	595
Apple, pear and canning fruit emergency assistance	679	2,590	14	–	–	–
Beef industry assistance	–	–	–	–	–	84,953
Meat exports to U.S.S.R.	–	–	–	1,240	–	–
Beef cattle freight subsidy	–	–	–	–	296	807
N.T. transport of stud stock	69	108	–	7	–	–
Other	–258	57	1	1	–	–
Total	*160,317*	*129,199*	*68,993*	*49,973*	*112,076*	*217,754*
Assistance to mining enterprises—						
Oil search subsidy	8,084	10,000	5,858	186	–	–
Gold mining industry assistance	248	17	–	–	–	–
Australian National Railways—transport iron ore in N.T.	–	1,000	–	–	–	–
Revaluation adjustment assistance, etc.	–	470	84	–	–	–
Mary Kathleen Uranium Ltd—Costs concerning borrowing of uranium	–	–	–	–	168	102
Pyrites bounty	273	–	–	–	–	–
Total	*8,605*	*11,487*	*5,942*	*186*	*168*	*102*
Assistance to manufacturing enterprises—						
Agricultural tractor bounty	2,800	3,707	4,442	3,628	4,880	5,700
Cellulose acetate flake bounty	171	206	136	109	–	–
Book bounty	2,984	3,409	5,936	6,749	8,034	9,538
Printed sheeting subsidy	–	–	–	–	300	451
Industrial research and development grants	14,000	15,000	17,500	19,300	15,400	13,649
Ship construction subsidy	30,633	20,925	31,153	40,966	21,301	7,605
Shipbuilding bounty	–	–	–	1,553	7,674	7,800
Export incentive grants	58,340	68,142	93,151	62,825	973	1,303
Export market development grants	–	–	–	17,076	24,079	30,000
Metal-working machine tools bounty	657	974	1,711	1,585	2,350	3,977
Structural adjustment assistance	–	109	5,304	1,120	637	–
Refrigeration compressors bounty	–	–	3,877	1,367	–	–
Electronic components assistance	–	–	385	973	776	293
ADP equipment bounty	–	–	–	–	–	600
Other	1,577	–	368	26	–	149
Total	*111,163*	*112,472*	*163,963*	*157,277*	*86,404*	*81,065*
Assistance to air transport services—						
Air services subsidy	2,000	1,870	926	768	675	842
Assistance to sea transport services—						
Tasmania shipping service subsidy	–	1,000	1,000	5,488	4,109	2,000
Tasmanian freight equalisation scheme	–	–	–	–	16,409	20,927
Other	24	24	40	48	48	50
Total	*24*	*1,024*	*1,040*	*5,536*	*20,566*	*22,977*
Assistance to communications services—						
Newspaper postage subsidy	–	–	–	1,000	–	–
Other assistance to enterprises—						
Petrol prices equalisation	23,305	19,336	1,708	–	–	–
N.T. petrol prices equalisation	2,393	2,483	626	–	–	72
Export finance insurance subsidy	–	–	–	70	298	354
Total	*25,698*	*21,819*	*2,334*	*70*	*298*	*426*
Natural disaster relief—						
N.T. freight subsidies	27	69	48	–	15	–
Total	**322,593**	**299,694**	**284,032**	**271,156**	**287,279**	**380,333**

Grants and advances to the States

Commonwealth Government financial assistance to the States takes two main forms: (i) grants for general and specific purposes, and (ii) assistance for developmental and other specific purposes in the form of repayable advances. Some information about these forms of financial assistance is given below, but for more complete information reference should be made to the Commonwealth Government Budget Paper No. 7 *Payments to or for the States, the Northern Territory and Local Government Authorities.* Further information also appears in chapters of this Year Book dealing with the specific function which the payments are designed to serve.

Grants to the States

The following tables show details of grants to the States for general and specific purposes. More detailed figures appear in *Commonwealth Government Finance* (5502.0).

COMMONWEALTH AUTHORITIES: GRANTS TO THE STATES, 1977-78

($'000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
FOR CURRENT PURPOSES							
General public services	3,904	2,580	1,108	1,905	1,777	176	11,450
Defence	455	303	379	–	162	63	1,362
Education	523,079	458,923	207,523	149,449	142,319	42,107	1,523,400
Health	381,781	247,156	138,210	111,296	124,027	35,853	1,038,323
Social security and welfare	8,336	7,028	6,677	5,008	2,560	1,253	30,862
Housing and community amenities	1,848	1,446	482	1,039	703	314	5,833
Recreation and culture	45	42	34	32	30	24	207
Economic services	14,715	10,882	11,666	2,830	3,611	1,845	45,548
Other purposes–							
Financial assistance grants	1,319,609	984,691	770,539	507,761	519,891	214,150	4,316,641
Special grants	–	–	24,800	–	–	–	24,800
Interest on State debt	5,835	4,254	2,192	1,408	947	534	15,170
Sinking fund on State debt	11,168	8,540	4,447	4,191	3,175	2,225	33,747
Natural disaster relief	1,237	99	231	218	526	–	2,311
Local government assistance	60,341	42,078	27,875	14,220	15,524	5,290	165,328
Total other purposes	*1,398,190*	*1,039,662*	*830,084*	*527,798*	*540,063*	*222,199*	*4,557,997*
Total grants for current purposes	**2,332,354**	**1,768,023**	**1,196,163**	**799,357**	**815,252**	**303,834**	**7,214,983**
FOR CAPITAL PURPOSES							
Education	106,588	99,014	58,317	37,078	32,718	10,763	344,476
Health	20,364	17,682	12,304	7,499	7,275	3,776	68,902
Social security and welfare	5,134	4,146	1,929	1,272	1,078	1,338	14,898
Housing and community amenities	2,815	465	3,247	1,698	3,700	385	12,310
Recreation and culture	943	820	712	2,248	522	577	5,822
Economic services–							
General administration, regulation and research	–	–	–	–	68	–	68
Soil and water resources management	3,630	1,136	2,718	773	2,000	250	10,508
Assistance to agricultural and pastoral industries	1,713	2,259	1,114	1,194	983	150	7,413
Electricity, gas, water supply	–	–	–	2,125	–	–	2,125
Rail transport	–	–	–	–	14	–	14
Sea transport	–305	–	–	–	–	–	–305
Road systems and regulation	159,106	101,311	101,381	41,098	62,045	28,283	493,224
Urban transit systems	20,395	9,830	15,648	3,790	605	732	51,000
Other	–	–	–	–	–	–	–
Total economic services	*184,539*	*114,536*	*120,861*	*48,980*	*65,715*	*29,415*	*564,047*
Other purposes–							
Capital assistance	154,489	120,071	63,370	62,284	44,220	33,496	477,930
Natural disaster relief	6,945	522	11,080	15	2,258	–	20,820
Total grants for capital purposes	**481,817**	**357,256**	**271,820**	**161,074**	**157,486**	**79,750**	**1,509,205**
TOTAL GRANTS							
Total grants to the States	**2,814,171**	**2,125,279**	**1,467,983**	**960,431**	**972,738**	**383,584**	**8,724,188**

COMMONWEALTH AUTHORITIES: GRANTS TO THE STATES

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
FOR CURRENT PURPOSES						
General public services	5,917	8,051	8,955	7,910	13,140	11,450
Defence	–	–	325	897	1,199	1,362
Education	153,858	433,470	910,814	1,135,547	1,393,876	1,523,400
Health	13,836	26,731	47,281	942,673	720,325	1,038,323
Social security and welfare	118,686	22,258	60,785	62,395	21,726	30,862
Housing and community amenities	6,892	7,437	9,494	9,863	7,425	5,833
Recreation and culture	–	218	70	600	600	207
Economic services	13,076	16,952	22,713	28,008	40,539	45,548
Other purposes—						
States' Personal Income Tax sharing entitlements(*a*)	1,647,293	1,859,905	2,373,811	3,072,780	3,695,594	4,316,641
Special grants	38,600	38,550	64,684	38,800	27,000	24,800
Special revenue assistance	–	25,000	75,000	–	–	–
Interest on State debt	15,170	15,053	15,287	15,170	15,170	15,170
Sinking fund on State debt	27,979	29,509	30,805	30,200	31,635	33,747
Debt charges assistance	34,512	46,016	57,520	–	–	–
Natural disaster payments	72	4,031	1,090	807	1,925	2,311
Local government assistance	–	–	56,345	79,908	140,000	165,328
Other	–	–	–	1,968	–	–
Total other purposes	*1,763,626*	*2,018,064*	*2,674,542*	*3,239,633*	*3,911,324*	*4,557,997*
Total grants for current purposes	**2,075,891**	**2,533,181**	**3,734,979**	**5,427,526**	**6,110,154**	**7,214,983**
FOR CAPITAL PURPOSES						
Education	105,569	189,064	415,473	319,246	327,763	344,476
Health	7,150	25,100	60,735	140,239	132,455	68,902
Social security and welfare	7,683	7,261	7,795	17,080	15,233	14,898
Housing and community amenities	11,651	25,010	70,182	79,402	37,171	12,310
Recreation and culture	–	1,562	12,623	11,036	8,976	5,822
Economic services—						
General administration, regulation and research	24	24	180	60	–	68
Soil and water resources management	17,646	13,572	15,193	14,343	11,636	10,508
Assistance to agricultural and pastoral industries	14,523	11,205	10,317	12,585	8,550	7,413
Electricity, gas, water supply	1,500	–	–	4,081	3,910	2,125
Rail transport	1,416	468	734	3,472	490	14
Sea transport	3,056	1,000	2,018	1,285	15	-305
Road systems and regulation	287,439	325,657	373,860	458,439	456,215	493,224
Urban transit systems	–	–	45,258	34,096	58,403	51,000
Other	50	98	1,081	1,829	832	–
Total economic services	*325,654*	*352,024*	*448,641*	*530,190*	*540,051*	*564,047*
Other purposes—						
Natural disaster relief	-77	20,275	48,446	29,150	23,697	20,820
Capital assistance	248,539	278,307	345,878	430,333	452,000	477,930
Total grants for capital purposes	**706,169**	**898,603**	**1,409,773**	**1,556,676**	**1,537,346**	**1,509,205**
TOTAL GRANTS						
Total grants to the States	**2,782,060**	**3,431,784**	**5,144,752**	**6,984,202**	**7,647,500**	**8,724,188**

(*a*) Prior to 1976–77 'Financial assistance grants'.

General purpose grants

Financial Assistance Grants. Details of the financial assistance grants arrangements existing in 1972–73 and previous years are given in earlier issues of the Year Book (*see* No. 60, page 578.)

Arrangements for the years 1973–74 to 1975–76 are embodied in the *States Grants Act* 1973. Under these arrangements the financial assistance grants increase each year in proportion to the increase in average wages in Australia as a whole in the year ending 31 March in the year of payment and to the increase in each State's population in the year ending 31 December in the year of payment, and by a betterment factor of 1.8 per cent. Adjustments were made to these arrangements to reduce the grants when the Commonwealth assumed full responsibility for financing tertiary education from 1 January 1974 and on account of transfers of railways from South Australia and Tasmania to the Commonwealth. Financial assistance grants additional to the grants determined by the formula were paid to Western Australia in 1973–74 and 1974–75, and to Tasmania in 1974–75. In 1975–76, $220 million was paid to the States in addition to the amounts otherwise payable in that year and in the same proportion.

These arrangements were replaced by the *Personal Income Tax Sharing Entitlements* between the Commonwealth and the State and local governments which came into operation in 1976–77. A comprehensive description of this scheme is given in the Commonwealth Budget Paper *Payments to or for the States, the Northern Territory and Local Government Authorities* 1978–79.

The following table shows the calculations underlying the States' tax sharing entitlements in 1977–78 together with amounts actually paid in that year.

DISTRIBUTION OF STATES' PERSONAL INCOME TAX SHARING ENTITLEMENTS IN 1977-78

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
Data relating to 1976–77							
(1) Financial Assistance Grants $'000(*a*)	1,125,866	840,724	653,131	432,455	437,515	186,294	3,675,985
(2) Population as at 31 December 1976 ('000 persons)(*b*) . .	4,933.0	3,764.9	2,121.6	1,268.8	1,183.7	409.3	13,681.3
(3) Financial Assistance Grants per head of population $(*c*) .	228.232	223.306	307.848	340.838	369.616	455.153	268.687
(4) Row (3) expressed as Multiple of Figure for Victoria(*d*)	1.02740	1.00000	1.39085	1.52676	1.66516	2.00188	–
Data relating to 1977–78							
(5) Population as at 31 December 1977 ('000 persons)(*e*) . .	4,979.3	3,799.4	2,155.0	1,283.8	1,211.1	412.1	13,840.8
(6) Row (5) Weighted by Row (4) ('000 persons)	5,115.7	3,799.4	2,997.4	1,960.1	2,016.7	824.9	16,714.2
(7) Percentage Distribution of Row (6) between States (per cent)	30.60684	22.73164	17.93335	11.72726	12.06559	4.93532	100.00000
(8) States' share of $4,336.1 million(*f*)—Distributed According to Row (7) $'000 .	1,327,143	985,667	777,608	508,506	523,176	214,000	4,336,100
(9) Amount Guaranteed under Section 8 of the Act (Financial Assistance Grants formula) $'000(*g*)	1,297,454	968,656	742,557	499,589	511,070	214,150	4,233,477
(10) States' Entitlements under the Act ($'000)(*h*)	1,327,143	985,667	777,608	508,506	523,176	214,150	4,336,250
(11) Actual Payments made in 1977–78 ($'000)	1,319,609	984,690	770,539	507,761	519,891	214,150	4,316,641
(12) Overpayments ($'000)(*i*) .	7,534	976	7,069	745	3,285	—	19,609

(*a*) As calculated by the Statistician in accordance with the provisions of the *States Grants Act* 1973. (*b*) Estimates of population used by the Australian Statistician in calculating the financial assistance grants for 1976–77. (*c*) (1) divided by (2). (*d*) These are the relativities specified in Section 4 (1) of the *States (Personal Income Tax Sharing) Act* 1976. (*e*) Determined by the Australian Statistician in accordance with Section 9 of the Act. (*f*) Net personal income tax collections in 1977–78 excluding revenue from Medibank levy; determined by Commissioner of Taxation in accordance with Section 6 of the Act. (*g*) Determined by the Australian Statistician in accordance with Section 8 of the Act. Calculated by applying to the 1976–77 financial assistance grants the estimated increases in State populations in the year ended 31 December 1977 (New South Wales 0.94 per cent, Victoria 0.92 per cent, Queensland 1.53 per cent, South Australia 1.19 per cent, Western Australia 2.32 per cent and Tasmania 0.69 per cent), the estimated increase in average wages for Australia as a whole in the year ended 31 March 1978 of 10.84 per cent and the betterment factor of 3.0 per cent. (*h*) For all States except Queensland, amounts in row (9); for Queensland, amount in row (8). (*i*) Difference between rows (10) and (11); 1978–79 payments will be reduced by these amounts.

Special Grants. These grants are paid to the financially weaker States as supplements to the financial assistance grants. They are paid on the recommendation of the Grants Commission. The recommendation by the Commission for payment of a special grant consists of two parts: one part is based on an estimate of the claimant State's financial need in the current financial year, and is treated as an advance payment subject to adjustment two years later when the Commission has compared in detail the audited budget results and standards of effort and of services provided in that year for both the claimant State and the States which the Commission takes as 'standard' (New South Wales and Victoria at present); and the other part represents the final adjustment to the advance payment made two years earlier and is known as the completion payment. The following table shows special grants paid in recent years.

GRANTS COMMISSION: SPECIAL GRANTS

($'000)

	1973-74	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79*
Queensland—						
Advance payment	10,000	15,000	25,000	18,000	14,000	16,000
Completion payment (*a*)	11,300	9,000	10,800	5,700	1,400	(*b*)
Total	*21,300*	*24,000*	*35,800*	*23,700*	*15,400*	(*b*)
South Australia—						
Advance payment	15,000	15,000	–	–	–	–
Completion payment (*a*)	2,500	(*c*)10,000	–	–	–	–
Total	*17,500*	*25,000*	–	–	–	–
Tasmania—						
Advance payment	10,000	–	–	–	–	–
Completion payment (*a*)	–	–	–	–	–	–
Total	*10,000*	–	–	–	–	–
Grand total	**48,800**	**49,000**	**35,800**	**23,700**	**15,400**	(*b*)

(*a*) Actually paid two years subsequent to year shown. (*b*) Not yet determined. (*c*) Represents agreed estimate of completion grant which could have been expected to be recommended by the Grants Commission if the State had remained claimant.

Capital assistance grants. Since 1970–71 the Commonwealth Government has provided a portion of the State's Loan Council programs in the form of interest-free capital grants. The grants replace State borrowings and thereby relieve them of debt charges they would otherwise have had to pay. These grants, which were authorised by the *States Grants* (*Capital Assistance*) *Acts*, totalled $278.3 million in 1973–74, $345.9 million in 1974–75, $430.3 million in 1975–76, $452.0 million in 1976–77, $477.9 million in 1977–78 and 1978–79.

Specific purpose grants

The Commonwealth Government has provided financial assistance for certain specific types of expenditure by the States for many years. Unlike the general purpose grants, these current and capital grants are 'tied', that is, they are subject to conditions as to the purposes for which they may be spent. Purposes for which such grants have been made include educational programs, hospital development programs, welfare services for the aged, road construction, natural disaster relief and, since 1974–75, assistance to local government authorities. Specific purpose grants amounted to $3,442.2 million in 1975-76, $3,472.9 million in 1976–77, $3,904.9 million in 1977–78 and $4,053.5 million in 1978–79.

For details of the various specific purpose programs reference should be made to the Commonwealth Budget Paper *Payments to or for the States, the Northern Territory and Local Government Authorities* 1979–80.

Advances to the States

The Commonwealth is also providing financial assistance for State projects by way of repayable advances. Borrowings of the Loan Council which are advanced to the States for their work programs and advances for State housing projects represent the largest proportion of the total funds advanced. Full descriptions of the various programs for which funds have been advanced in recent years are given in *Payments to or for the States, the Northern Territory and Local Government Authorities.*

The following tables show figures of advances to the States and repayments of advances. More detailed figures appear in *Commonwealth Government Finance* (5502.0).

COMMONWEALTH AUTHORITIES: NET ADVANCES TO THE STATES 1977-78

($'000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
Defence	7,654	517	12,308	1,300	-46	-3	21,730
Housing and community amenities	137,707	107,839	37,242	67,381	39,234	23,911	413,314
Economic services—							
Soil and water resources management	-2,113	-182	-529	–	20	–	-2,803
Forest resources management	374	73	-8	-91	–	–	348
Assistance to agricultural and pastoral industries	6,305	6,946	4,281	5,663	3,290	-68	26,415
Mining	–	–	–	–	–	3,383	3,383
Electricity, gas, water supply	–	–	111	4,154	-244	-2,989	1,032
Rail transport	-183	-96	-1,969	-2	-2,299	–	-4,549
Sea transport	–	–	-94	–	-151	-132	-377
Other transport	–	–	-570	-1,875	–	–	-2,445
Total economic services	*4,383*	*6,741*	*1,222*	*7,849*	*616*	*194*	*21,004*
Other purposes—							
State works programs	250,760	197,971	103,945	103,370	71,607	57,182	784,835
Special resource assistance	-10,000	–	–	–	–	–	-10,000
Natural disaster relief	-403	1,206	1,712	12,117	15,714	-320	30,026
Other	–	–	–	–	–	–	–
Total other purposes	*240,357*	*199,177*	*105,657*	*115,487*	*87,321*	*56,862*	*804,861*
Total net advances	**390,102**	**314,272**	**156,430**	**192,017**	**127,125**	**80,964**	**1,260,909**

Minus sign (–) denotes excess of repayments.

COMMONWEALTH AUTHORITIES: ADVANCES TO THE STATES
($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
GROSS						
Defence	6,163	7,766	26,805	34,170	35,114	22,519
Housing and community amenities	(*a*)6,610	263,633	565,506	558,810	474,741	441,646
Economic services—						
Assistance to agricultural and pastoral industries	41,501	27,363	28,478	50,328	31,981	37,489
Other	29,636	37,316	57,118	65,606	48,900	8,174
Other purposes—						
State works programs	(*a*)733,461	588,693	741,541	860,667	904,000	955,867
Other	15,000	3,872	3,663	1,098	4,828	34,369
Total gross advances	**832,371**	**928,644**	**1,423,111**	**1,570,679**	**1,499,564**	**1,500,064**
REPAYMENTS						
Defence	553	593	631	681	734	789
Housing and community amenities	16,735	17,380	19,172	22,061	25,191	28,332
Economic services—						
Assistance to agricultural and pastoral industries	2,052	3,970	3,391	5,451	8,548	11,074
Other	7,904	11,088	9,372	11,997	13,116	13,585
Other purposes—						
State works programs	132,195	140,783	149,400	151,999	159,323	171,032
Other	5,319	6,276	16,245	6,096	14,589	14,343
Total repayments	**164,758**	**180,090**	**198,211**	**198,237**	**221,501**	**239,155**
NET						
Defence	5,610	7,173	26,174	33,490	34,380	21,730
Housing and community amenities	(*a*)-10,125	246,254	546,334	536,749	449,550	413,314
Economic services—						
Assistance to agricultural and pastoral industries	39,449	23,393	25,087	44,877	23,433	26,415
Other	21,732	26,228	47,746	53,609	35,784	-5,411
Other purposes—						
State works programs	601,266	447,910	592,141	708,668	744,677	784,835
Other	9,681	-2,404	-12,582	-4,999	-9,761	20,026
Total net advances	**667,613**	**748,554**	**1,224,900**	**1,372,393**	**1,278,051**	**1,260,909**

(*a*) In 1972-73 funds for housing were provided under the State loan works program.

Minus sign (-) denotes excess of repayments.

Main components of receipts

The main components of the receipts of Commonwealth authorities are taxation, income of public enterprises and other factor income transfers, and borrowing and financing transactions. Taxation constitutes by far the major source of receipts. In recent years, however, borrowing has become an increasingly significant source of funds for Commonwealth authorities.

In what follows, an account is given of the system of Commonwealth Government taxation, and some details are given of the current operations of Commonwealth public enterprises. Borrowings and other financing activities of Commonwealth authorities are dealt with for convenience in a later section relating to the debt of all public authorities.

Commonwealth Government taxation—summary

The following tables show Commonwealth Government taxation receipts classified by type of tax for the past six years, and the proportion of each type to total collections.

COMMONWEALTH AUTHORITIES: TAXATION BY TYPE OF TAX(*a*)
($'000)

Type of tax	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Taxes—						
Income taxes—						
Individuals(*b*)	5,485,143	7,708,552	9,212,652	11,046,664	12,122,158	12,797,174
Companies(*c*)	1,933,870	2,343,943	2,505,173	2,803,079	3,072,827	3,002,118
Dividend (withholding)	56,648	59,818	62,674	71,969	87,700	88,094
Interest (withholding)	22,588	28,298	32,344	24,408	30,153	25,975
Total income taxes	*7,498,249*	*10,140,611*	*11,812,843*	*13,946,120*	*15,312,838*	*15,913,361*
Estate duty	66,018	63,787	76,391	76,189	95,823	82,061
Gift duty	9,725	16,204	10,454	11,486	6,574	1,445
Rates on land	7,657	9,207	12,993	15,503	17,010	15,012
Customs duty on coal exports	–	–	111,640	121,329	100,165	93,524
Customs duties on imports	604,443	840,515	932,066	1,152,016	1,131,817	1,363,041
Excise duties	1,554,581	1,728,620	2,331,325	2,485,420	2,733,490	3,844,686
Sales tax	968,724	1,154,266	1,408,286	1,650,256	1,757,702	1,769,840
Primary production taxes	64,442	143,428	115,594	189,006	179,368	283,092
Broadcasting listeners' and television viewers' licences(*d*)	68,458	18,816	–	–	–	–
Broadcast station licences	591	713	827	1,200	1,508	1,843
Television station licences	2,410	2,819	3,393	6,028	10,469	12,724
Stevedoring industry charge	19,389	21,921	37,150	46,884	28,955	19,003
Payroll tax	6,950	14,351	17,347	18,644	19,583	13,030
Other taxes	9,312	10,153	13,087	14,970	18,031	29,045
Total taxes	*10,880,950*	*14,165,411*	*16,883,396*	*19,735,051*	*21,413,333*	*23,441,707*
Fees from regulatory services	5,195	8,199	11,821	15,264	22,407	24,775
Fines	2,712	2,620	2,515	3,121	3,838	3,304
Unfunded employee retirement contribution	27,248	34,513	39,889	51,680	61,087	63,129
Other current transfers n.e.c.	761	785	209	678	554	588
Total taxation	**10,916,866**	**14,211,528**	**16,937,830**	**19,805,794**	**21,501,219**	**23,533,503**

(*a*) From 1978–79 excluded taxes collected by Northern Territory Government authorities. (*b*) Includes Medibank levy payable from 1 October 1976 to 31 October 1978. (*c*) Excludes income tax paid by public enterprises: 1973–74, $20.1m; 1974–75, $14.9m; 1975–76, $17.7m; 1976–77, $21.4m; 1977–78, $23.1m; 1978–79, $34.6m.. (*d*) Abolished in September 1974.

Taxes on income

A description of the development of income taxes in Australia appeared in Year Book No. 35, page 926. Since July 1942 the Commonwealth Government, under the uniform tax arrangement, has been the only authority imposing taxes on income.

The laws dealing with the assessment and imposition of income tax at 30 November 1979 were—*Income Tax Assessment Act* 1936 (later referred to as 'the Assessment Act'); Acts declaring rates of tax—*Income Tax* (*Rates*) *Act* 1976, *Income Tax* (*Individuals*) *Act* 1978, *Income Tax* (*Companies and Superannuation Funds*) *Act* 1978, *Income Tax* (*Non-resident Companies Act*) 1978, *Income Tax* (*Dividends and Interest Withholding Tax*) *Act* 1974, *Income Tax* (*Drought Bonds*) *Act* 1969, *Income Tax* (*Withholding Tax Recoupment*) *Act* 1971, *Income Tax* (*Bearer Debentures*) *Act* 1971, *Income Tax* (*Mining Withholding Tax*) *Act* 1979, *Income Tax* (*Film Royalties*) *Act* 1977, Income Tax Regulations and Income Tax (Indexation) Regulations.

Both individuals and companies are liable for income tax. Private companies are subject to tax on undistributed income in addition to the primary income tax levied on all companies.

The operation of the *Assessment Act* is affected by other Acts, the more important of which are:

(a) *Taxation Administration Act* 1953, which provides for the administration of certain Acts relating to taxation and the screening for taxation purposes of applications for exchange control approval.

(b) *Income Tax* (*International Agreements*) *Act* 1953, which gives the force of law to agreements with other countries for the avoidance of double taxation. Australia has concluded comprehensive agreements for the avoidance of double taxation with the United Kingdom, the United States of America, Canada, New Zealand, Singapore, Japan, the Federal Republic of Germany, the Netherlands, France and Belgium, and limited agreements dealing with airline profits have been concluded with France, Italy and Greece. The agreements with Belgium and Greece have not yet entered into force.

(c) *The States* (*Personal Income Tax Sharing*) *Act* 1976, which provides for the States to receive a specified proportion of net personal income tax collections.

(d) *Income Tax (Arrangements with the States) Act* 1978, which enables each State to increase or reduce personal income tax levied on residents of the State.

(e) *International Organizations* (*Privileges and Immunities*) *Act* 1963, and Regulations made under that Act, which provide for the exemption from income tax of certain income of international organizations and their officials.

(f) *Diplomatic Privileges and Immunities Act* 1967, which provides for the exemption from income tax of certain income of diplomatic representatives, their staff and families.

(g) *The Loan* (*Income Equalization Deposits*) *Act* 1976, which provides for the making of interest bearing income equalization deposits by primary producers with the Commissioner of Taxation.

(h) *Consular Privileges and Immunities Act* 1972, which provides for the exemption from income tax of certain income of consular representatives, their staff and families.

(i) *Loan* (*Drought Bonds*) *Act* 1969, which authorizes the issue of drought bonds and empowers the Commissioner of Taxation to declare when drought bonds have become redeemable.

An individual is required to lodge a return of income when his total income (other than dividends or interest upon which withholding tax has been paid) from all sources in Australia is in excess of $3,893 in 1979–80.

Non-profit companies with total incomes in excess of $416 and all other companies, partnerships and trusts deriving income are required to lodge returns of income each year.

Where applicable, income tax payable is assessed and assessment notices showing the amounts payable are issued during the year following the year of income. For individuals the approximate amount payable, however, has already been collected during the income year (from employees by deductions from salary or wages and from non-employees by a provisional tax). The amount shown on the assessment notice is therefore adjusted against the amount already paid, and any difference is either collected or refunded.

Taxes on income—individuals

Pay-as-you-earn-system

Salary and wage earners are subject to tax instalment deductions by employers according to prescribed scales which show the amount to be deducted according to income. Under the group employer scheme (covering employers of more than ten persons), the amount deducted is required to be regularly remitted to the Australian Taxation Office.

Not later than 14 July each year, employers are required to supply each employee with a group certificate showing the amount earned and deductions made during the year ended 30 June.

Under the tax stamp scheme for employers other than group employers, a tax deduction sheet in two parts is used. Every four weeks the employer purchases tax stamps for the amount of deductions made each pay day and attaches the tax stamps to the tax stamps sheet in the space provided and the tax checks (attached to the stamps) in the space provided on the tax check sheet. At the end of the year the employer gives the employee the tax stamp sheet and sends the tax check sheet to the Taxation Office. The tax stamp sheet is then used in the same way as a group certificate.

Individuals with taxable income other than salary or wages of $1000 or more in 1979–80 may be required to pay provisional tax in respect of that income. The provisional amount is intended as an approximation to the tax which will be assessed after the return of income for the current year has been lodged. The amount of provisional tax for any year is, in the first place, determined by the tax assessed on income of the previous year. The assessment notice shows the tax assessed on income from the previous year less any provisional tax already paid for that year and provisional tax payable for the current year. Provision exists for a person to apply to vary the amount of provisional tax imposed if his or her circumstances change during the year.

Assessable income—individuals

Assessable income (from which deductions are made to arrive at taxable income) basically includes all receipts within the ordinary meaning of the word 'income', but excludes items of income that are specified as exempt. Assessable income specifically includes certain receipts such as casual profits arising from the sale of property held less than one year and profits arising from the sale of property acquired for the purpose of profit-making by sale regardless of the period the property is held before sale. The value to employees of allowances and benefits given by employers for services rendered is also specifically included in the assessable income of the employees. Receipts such as gifts (other than gratuities received by an employee in the course of employment), legacies, lottery wins and other receipts of capital generally do not form part of the assessable income.

Exemption from tax is provided by the Assessment Act in respect of a number of specified classes of income—for example, certain war pensions; invalid pensions; family allowances; income received from a scholarship, bursary or other educational allowance; the income of charitable institutions and public hospitals and certain foreign income where it has been taxed overseas.

Deductions

The taxable income to which the rates of tax are applied is arrived at by deducting from the assessable income any allowable deductions. Allowable deductions include:

General Deductions. Deductions from assessable income are authorised for all losses and outgoings incurred in gaining or producing assessable income or necessarily incurred in carrying on a business for that purpose, except to the extent that they are of a capital, private or domestic nature, or are incurred in gaining or producing exempt income.

In addition, certain other deductions are specifically authorised by the Assessment Act. Deductions allowable include trading losses incurred in previous years, bad debts, depreciation, rates and land taxes paid and gifts to various institutions. Expenditure of a capital nature incurred in relation to mining operations is generally deductible over the lesser of 5 years or the life of the mine or oil field or, in the case of plant, over the life of the plant. Exploration or prospecting expenses incurred by mining companies are generally allowable as a deduction against income of a mining business in the year in which the expenditure is incurred, while exploration and prospecting expenses incurred on petroleum mining is deductible against any income calculated by reference to the life of the field with a minimum deduction of one-fifth of the undeducted expenditure. Certain expenditure of a capital nature incurred by primary producers in carrying out improvements to their land is deductible over 10 years.

Deductions may also be allowed in respect of expenditure on certain plant and machinery by way of an investment allowance at a rate of 20 per cent of eligible expenditure for plant ordered between 1 July 1978 and 30 June 1985. Deductions are also allowable in respect of cash deposits made by primary producers (income equalisation deposits) which fall for inclusion in assessable income on withdrawal or conversion.

Living-away-from-home allowance. Where an allowance is paid to an employee under any award, industrial agreement, etc.—

(a) if it is received in cash and does not exceed $7 per week, a deduction is allowable of the amount of the allowance, up to $5 per week;

(b) if it is received otherwise than in cash and exceeds a value of $2 per week but does not exceed a value of $5 per week, a deduction is allowable of the excess of that value over $2 per week.

In any other case the deduction allowable is the amount which the Commissioner deems reasonable but may not exceed the total amount received less $2 per week.

Subscriptions. When they are paid in respect of membership of any trade, business or professional association or union. (Deductions may be limited to $42 in respect of subscriptions to any union, association, etc.)

Gifts. Those of $2 and upwards made to specified funds, authorities and institutions including public benevolent institutions, approved research institutions for scientific research, building funds for schools conducted by non-profit organisations, etc.

Rebates of Tax

From the gross amount of tax calculated by applying the relevant rate to the taxpayer's taxable income, a deduction is made for any rebates allowable to the taxpayer.

Dependant, housekeeper and sole parent rebates. A concessional rebate of the relevant amount specified below for each *dependant* is allowable to a resident taxpayer if, during the whole of the year of income, the taxpayer is the sole contributor to the dependant's maintenance and that dependant does not have a separate net income in excess of $203.

Dependant	*Maximum rebate 1979–80*
	$
Spouse, daughter-housekeeper	597
Parent or parent-in-law	539
Invalid relative	270

If a person in one or other of these dependant categories is a dependant during part only of the year of income (such a person residing with the taxpayer is ordinarily regarded as a dependant throughout the period of residence), the maximum rebate is proportionately reduced. Rebates for a parent, parent-in-law or invalid relative are allowable only in respect of residents of Australia.

Where a person has a separate net income in excess of $203 while a dependant of a taxpayer, the rebate otherwise allowable is reduced by $1 for every complete $4 by which the separate net income exceeds $203, irrespective of the period over which the person has derived the income. When two or more people contribute to the maintenance of a person who is a dependant of both of them, the rebate allowable is apportioned between the contributing taxpayers.

A concessional rebate of $597 is allowable to a resident taxpayer in respect of a *housekeeper* who, during the whole of the Year of income, is wholly engaged in keeping house in Australia for the taxpayer and has the care of (*a*) a child or step-child of the taxpayer, less than 16 years of age; (*b*) an invalid relative in respect of whom the taxpayer is entitled to a rebate or any child under 16 years classed as a dependant for this purpose; or (*c*) the taxpayer's spouse if in receipt of an invalid pension under the *Social Services Act.*

If these conditions apply for only part of the year, a proportionate rebate may be allowed. Where the taxpayer is married, a rebate may be allowable for a housekeeper if the housekeeper is engaged in caring for an invalid spouse (*see* (*c*) above) or the Commissioner is of the opinion that, because of special circumstances, it is just to allow a rebate. The rebate is not allowable in respect of any period during which the taxpayer is entitled to a deduction for a daughter-housekeeper.

A concessional rebate of $417 is allowable to a *sole parent* i.e., a resident single, widowed or divorced person who has the sole care of a child under sixteen years of age or a student (up to 25 years of age, receiving full-time education at a school, college or university), whose separate net income is ordinarily less than $1,283. The sole parent rebate is not allowable where the taxpayer is entitled to a rebate for a housekeeper or daughter-housekeeper or is living in a de-facto relationship.

Concessional rebates

Resident taxpayers may be allowed a concessional rebate in respect of certain expenses listed below amounting in total to more than $1,590. The amount of the rebate for 1979–80 is 33.07 per cent of the excess of the total expenditure over $1,590, but the rebate cannot exceed the tax otherwise payable.

Medical, dental, optical, etc. expenses. Rebates are allowable in respect of medical, dental, optical and therapeutic treatment expenses paid by the taxpayer, less any amounts in respect of those expenses which are received or receivable by the taxpayer or any other person from a Government or friendly society or medical benefit fund. Included are amounts paid in respect of artificial limbs and eyes, hearing aids and medical and surgical appliances and the remuneration of an attendant of a person who is blind or permanently confined to a bed or invalid chair. Domiciliary nursing care benefits are to be disregarded in calculating the rebatable amount in respect of medical expenses.

Rebates in respect of the above medical, etc. expenses are allowable only for expenditure in respect of a resident taxpayer, spouse, children under 21 years of age or any other 'dependant' resident in Australia, but not a 'housekeeper'.

Funeral, burial or cremation expenses. Rebates are allowable only in respect of the taxpayer's spouse, children under 21 years of age or any other 'dependant', but not a 'housekeeper', provided the dependant was a resident of Australia at the time of death. The amount of expenses allowable in respect of any one dependant is limited to $100.

Adopted children. Legal expenses and court costs of the kind normally incurred by a taxpayer in adopting a child.

Payments of life, sickness and accident insurance premiums and payments to a Friendly Society, Superannuation, Sustentation or similar Fund. Amounts subject to rebate are limited to a total of $1,200 in respect of such payments made on behalf of the taxpayer, his spouse or children. Where policies are taken out on or after 1 January 1973 or where the first premium of a policy was paid on or after that date, rebates for premiums of such policies are *not* allowable if the benefits, other than death benefits, are payable within a period of 10 years of commencement of risk.

Education expenses. An amount not exceeding $250 is allowed in respect of each child of the taxpayer or 'dependant' under 25 years of age receiving full-time education. Education expenses include expenditure for recognised school uniforms, on school fees, board and accommodation, text books, stationery, equipment and fares.

Self-education expenses. These are allowable where they are paid by the taxpayer for or in connection with a course of education undertaken by him for the purpose of gaining qualifications for use in carrying on a profession, business or trade or in the course of employment. The maximum amount subject to rebate is $250.

Calls. One-third of the amount of calls paid by the taxpayer in the year of income on shares owned by him in a company carrying on as its principal business afforestation in Australia.

Rates and land taxes. These are allowable when they are paid by a taxpayer who is personally liable. The maximum amount rebatable is $300 and must be in respect of a sole or principal place of residence.

Other rebates

Zone allowance rebate. A separate rebate is allowable to resident taxpayers who have resided in Zone A or B (prescribed isolated areas) for more than one half of the income year. The rebates are as follows.

(a) Zone A: a rebate equal to the sum of $216 and 25 per cent of certain amounts in respect of dependants, sole parent and housekeeper;

(b) Zone B: a rebate equal to the sum of $36 and 4 per cent of those amounts stipulated under Zone A.

The amount in respect of dependants, sole parent and housekeeper that may be the subject of a 25 per cent (Zone A) or 4 per cent (Zone B) increment to the basic zone allowance are:

	1978–79	
	$	
Sole parent	417	
Housekeeper	597	
Spouse, daughter-housekeeper	597	(*a*)
Parent or parent-in-law	539	
One child under 16 years, not being a student	270	
Each other child under 16 years, not being a student	203	
Student	270	
Invalid relative	270	

(*a*) Where one of these persons has a separate net income in excess of $203 while a dependant of a taxpayer, the amount to be taken into account is reduced by $1 for every complete $4 by which that income exceeds $203, irrespective of the period over which it was derived. Where two or more people contribute to the maintenance of a person who is a dependant of both of them, the amount to be taken into account is apportioned between the contributing taxpayers.

Amounts for a parent, parent-in-law or invalid relative are allowable only in respect of resident dependants.

'Child' or 'children' includes a legally adopted child, a step-child or ex-nuptial child of the taxpayer. 'Student' means a person less than 25 years of age who is receiving full-time education at a school, college or university.

Overseas service rebate. Separate rebates are also allowable to certain members of the Defence Force serving in prescribed overseas localities. Where the period of service is more than one-half of the year of income, the rebate is equal to the Zone A rebate. Where the period is less than one-half of the year of income, a proportionate part of the Zone A rebate is allowable.

Rebate for government and other loan interest. A rebate of tax may be allowed in respect of certain Government and other loan interest included in an individual's taxable income. Particulars are given on page 604.

Capital subscription rebate. Section 160ACA of the Income Tax Assessment Act provides for a rebate of tax to shareholders in respect of capital subscribed to certain petroleum exploration and mining companies. The rebate allowable is 30 cents for each $1 of amounts paid on shares after 24 August 1977 by way of application and allotment moneys and calls which are applied by a company towards the paid-up value of its shares. The allowance of the rebate is conditional upon the company lodging a declaration satisfying the Commissioner that the share monies will be, or have been, spent on outgoings for off-shore exploration for petroleum and the development of off-shore petroleum fields and also includes expenditure on facilities located on-shore that are directly related to the off-shore petroleum operations. It is also conditional upon the company forgoing any right to a deduction under Division 10AA for the expenditure. These provisions will be extended to include on-shore petroleum exploration and development for capital subscribed after 21 August 1979.

Effective exemption from tax

For the income years from 1963–64 to 1971–72 inclusive, the income of a taxpayer without dependants was exempt from income tax if it did not exceed $416. For years 1972–73 to 1974–75 inclusive the income of a taxpayer without dependants was exempt from income tax if it did not exceed $1,040. In 1975–76 and 1976–77 after the application of the general concessional rebate of $540 and $610 respectively to resident taxpayers, the corresponding figures were $2,518 and $2,845. In 1977–78, with the composite tax scale applying, the figure was $3,402. For 1978–79 no tax was payable unless taxable income exceeded $3,893 and this also applies in respect of the 1979–80 income year. The effect of deductions or rebates for dependants was to exempt resident taxpayers up to the incomes shown in the samples hereunder.

RESIDENT TAXPAYERS: EFFECTIVE EXEMPTIONS FROM INCOME TAX

($)

	Taxpayer with—					
			Wife and—			
Income years ended June—	*No dependants*	*Wife only*	*one child*	*two children*	*three children*	*Sole parent*
1975	1,040	2,468	3,148	3,564	3,980	. .
1976	2,518	4,000	4,740	(*a*)5,228	(*b*)5,800	2,740
1977	2,845	4,697	4,697	4,697	4,697	4,141
1978	3,402	5,335	5,335	5,335	5,335	4,761
1979	3,893	5,675	5,675	5,675	5,675	5,137
1980	3,893	5,698	5,698	5,698	5,698	5,153

(*a*) Neither of whom is a student child. (*b*) Including one student child.

Rates of income tax on individuals

The table on page 604 shows the rates of income tax for the income year 1979-80. Rates for income years 1954–55 to 1973–74 were published in Year Book No. 60, page 590, for income years 1974–75 and 1975–76 they were published in Year Book No. 61, page 586, for income years 1976–77 and 1977–78 they were published in Year Book No. 62, pages 593 and 594 and for income year 1978–79 they were published in Year Book No. 63, page 529.

For primary producers, a rebate is allowable in respect of taxable income derived from primary production and in respect of other taxable income where it does not exceed $5,000. Where non-primary production income exceeds $5,000, the amount deemed to be derived from primary production is the amount, if any, that remains after deducting from $5,000 the excess of that income over $5,000. In determining the rebate, an averaging benefit is calculated by subtracting from the tax on the taxable income, the tax that would be payable if an average rate appropriate to the average on the taxable incomes of the current and four previous years had applied (where the latter amount is less than the former). The rebate is that proportion of the averaging benefit that the deemed primary production taxable income bears to the total taxable income.

The taxable income, including abnormal receipts, of *actors, artists, inventors,* etc. is taxed at the rate appropriate to the normal taxable income plus one-third of the abnormal receipts.

Interest derived from bonds, etc.

Interest derived from bonds, etc., issued between 1 January 1940 and 31 October 1968 by the Commonwealth Government, or on certain State semi-government loans issued free of State income tax, is subject to a rebate of income tax of 10 cents for each $1 of interest received. The rebate does not apply to interest received from bonds, etc., issued on or after 1 November 1968.

Rates of tax–individuals

The rates of tax on taxable incomes derived by individuals during the year ending 30 June 1980 (or substituted accounting period) are set out below. The standard rate of 33.07 per cent shown in the scale is derived as an average of the 34.57 per cent standard rate effective for pay-as-you-earn purposes to 30 November 1979 and 32 per cent standard rate to apply from 1 December 1979 with weights of 5/12ths and 7/12ths respectively.

GENERAL RATES OF TAX—INDIVIDUALS
1979–80 FINANCIAL YEAR, 1979–80 INCOME YEAR

Total taxable income				
Not less than—	*Not more than—*	*Tax at general rates on total taxable income*		
$	$	$		$
0	3,893	Nil		
3,893	16,608	Nil	+ 33.07c for each $1 in excess of	3,893
16,608	33,216	4204.8505	+ 47.07c for each $1 in excess of	16,608
33,216	. .	12022.2361	+ 61.07c for each $1 in excess of	33,216

Income tax payable on specified incomes

The following table shows, for the income years 1974–75 to 1979–80, the actual income tax payable by taxpayers with various incomes and numbers of dependants. For 1974–75 allowance has been made for the low income family rebate, and in 1975–76 and 1976–77, the general concessional rebates of $540 and $610 respectively have been applied. For 1977–78 the composite rate scale has been used, which incorporates the general concessional rebate. Prior to 1975–76 a concessional deduction system operated for dependants; this was replaced by a system of rebates.

COMMONWEALTH INCOME TAX PAYABLE ON SPECIFIED INDIVIDUAL INCOMES 1974-75 TO 1979-80 INCOME YEARS

($)

Net Income(a)	*1974–75*	*1975–76*	*1976–77(c)*	*1977–78(c)*	*1978–79(c)*	*1979–80(c)*
TAXPAYER WITH NO DEPENDANTS						
$						
1,000	..	..	..	..	..	..
3,000	220.00	130.00	41.80	..	..	..
5,000	680.00	670.00	581.80	457.52	370.84	366.08
7,000	1,380.00	1,370.00	1,229.80	1,073.45	1,040.84	1027.48
10,000	2,780.00	2,420.00	2,279.80	2,085.92	2,045.84	2019.58
15,000	5,470.00	4,670.00	4,399.80	3,917.26	3,720.84	3673.08
20,000	8,420.00	7,420.00	6,954.80	6,199.80	5,870.72	5801.46
TAXPAYER WITH DEPENDANT WIFE						
1,000	..	..	..	..	..	..
3,000	74.40	..	..	..	..	..
5,000	534.40	270.00	81.80	..	..	..
7,000	1,234.40	970.00	729.80	518.45	443.84	430.48
10,000	2,605.28	2,020.00	1,779.80	1,530.92	1,448.84	1422.58
15,000	5,269.80	4,270.00	3,899.80	3,362.26	3,123.84	3076.08
20,000	8,201.60	7,020.00	6,454.80	5,644.80	5,273.72	5204.46
TAXPAYER WITH DEPENDANT WIFE AND ONE CHILD						
1,000	..	..	..	..	..	..
3,000	..	..	..	..	..	..
5,000	430.40	70.00	81.80	..	..	..
7,000	1,130.40	770.00	729.80	518.45	443.84	430.48
10,000	2,480.48	1,820.00	1,779.80	1,530.92	1,448.84	1422.58
15,000	5,126.80	4,070.00	3,899.80	3,362.26	3,123.84	3076.08
20,000	8,045.60	6,820.00	6,454.80	5,644.80	5,273.72	5204.46
TAXPAYER WITH DEPENDANT WIFE AND TWO CHILDREN(*b*)						
1,000	..	..	..	..	..	..
3,000	..	..	..	..	..	..
5,000	347.20	..	81.80	..	..	..
7,000	1,047.20	620.00	729.80	518.45	443.84	430.48
10,000	2,380.64	1,670.00	1,779.80	1,530.92	1,448.84	1422.58
15,000	5,012.40	3,920.00	3,899.80	3,362.26	3,123.84	3076.08
20,000	7,920.80	6,670.00	6,454.80	5,644.80	5,273.72	5204.46

(*a*) Income remaining after allowing all deductions other than concessional deductions and deductions for dependants. (*b*) Neither of whom is a student. (*c*) For 1976–77, 1977–78, 1978–79 and 1979–80 rebates for children and students are replaced by family allowances (formerly child endowment).

Income tax assessments—Individuals

The following table shows for the 1976–77 income year the number of taxpayers, income, and net income tax assessed for individuals.

COMMONWEALTH INCOME TAX ASSESSMENTS(*a*): TAXABLE INDIVIDUALS BY GRADE OF NET INCOME AND BY STATE OR TERRITORY OF RESIDENCE

(Income derived in the year 1976–77)

Grade of net income(*b*)	*Taxpayers*			*Net income* (*b*)	*Total taxable income*(*c*)	*Net income tax assessed*
	Males	*Females*	*Total*			
$ $	No.	No.	No.	$'000	$'000	$'000
Under 3,000	39,299	41,262	80,561	209,827	209,117	7,385
3,000–3,999	195,856	295,359	491,215	1,716,815	1,700,114	93,722
4,000–4,999	198,741	267,128	465,869	2,095,633	2,068,064	207,208
5,000–5,499	108,951	128,090	237,041	1,244,170	1,226,569	147,658
5,500–5,999	113,587	129,711	243,298	1,399,236	1,378,517	184,348
6,000–6,499	121,251	134,614	255,865	1,599,093	1,574,351	233,815
6,500–6,999	137,081	135,321	272,402	1,840,444	1,811,692	293,012
7,000–7,499	162,532	147,636	310,168	2,249,930	2,214,560	382,905
7,500–7,999	185,565	138,412	323,977	2,510,890	2,469,992	449,926
8,000–8,499	199,938	111,178	311,116	2,565,590	2,520,765	479,114
8,500–8,999	206,797	84,815	291,612	2,550,484	2,502,012	491,924
9,000–9,499	203,045	65,148	268,193	2,479,957	2,429,574	492,885
9,500–9,999	192,441	51,753	244,194	2,379,560	2,327,932	485,726
10,000–10,499	175,735	43,724	219,459	2,248,083	2,198,402	471,842
10,500–10,999	155,429	34,906	190,335	2,044,922	1,998,592	438,756
11,000–11,999	261,515	51,389	312,904	3,590,117	3,509,368	796,404
12,000–12,999	201,942	38,673	240,615	3,001,407	2,934,568	707,661
13,000–13,999	150,269	24,140	174,409	2,349,523	2,296,458	583,563
14,000–14,999	111,798	17,850	129,648	1,876,337	1,833,559	487,768
15,000–15,999	86,627	13,524	100,151	1,550,722	1,514,767	418,208
16,000–16,999	67,149	10,327	77,476	1,276,542	1,246,215	356,171
17,000–17,999	48,804	6,805	55,609	972,060	947,721	280,880
18,000–18,999	37,448	4,964	42,412	783,593	762,681	235,136
19,000–19,999	28,685	3,849	32,534	633,798	616,178	197,140
20,000–24,999	72,083	10,308	82,391	1,816,149	1,761,967	611,522
25,000–29,999	28,091	4,149	32,240	876,065	848,866	334,010
30,000–49,999	28,876	3,994	32,870	1,201,546	1,164,836	531,851
50,000–99,999	6,980	794	7,774	499,879	492,246	266,493
100,000 and over	873	98	971	139,168	138,073	83,087
State or Territory of Residence—						
New South Wales	1,241,337	710,274	1,951,611	17,734,629	17,376,195	3,861,348
Victoria	983,350	585,605	1,568,955	14,129,261	13,826,753	3,079,586
Queensland	460,936	241,637	702,573	6,186,085	6,052,458	1,311,788
South Australia	342,176	193,673	535,849	4,610,954	4,527,295	960,780
Western Australia	319,516	171,430	490,946	4,367,315	4,286,836	932,140
Tasmania	105,481	52,757	158,238	1,398,779	1,376,389	296,948
Northern Territory	19,530	10,330	29,860	301,938	297,151	64,427
Australian Capital Territory	55,062	34,215	89,277	972,576	954,682	243,106
Total	**3,527,388**	**1,999,921**	**5,527,309**	**49,701,538**	**48,697,757**	**10,750,124**

(*a*) Assessments in respect of 1976–77 income year issued during the period 1 July 1977 to 30 June 1978. (*b*) Net income is 'Total assessable income less total deductions for expenses incurred in gaining assessable income'. (*c*) Taxable income is the income remaining after deducting from assessable income all allowable deductions.

Details of the number of individual taxpayers and net income tax assessed by grades of income for the income years 1975–76 and 1976–77 are shown in the following table.

COMMONWEALTH INCOME TAX ASSESSMENTS: TAXABLE INDIVIDUALS, BY GRADE OF INCOME(*a*) (INCOME YEARS 1975-76 AND 1976-77)

	1975–76			*1976–77*	
Grade of net income(a)	*Tax-payers*	*Net income tax assessed*	*Grade of net income(a)*	*Tax-payers*	*Net income tax assessed*
$ $	No.	$'000	$ $	No.	$'000
Under 3,000	226,374	17,358	Under 3,000	80,561	7,385
3,000– 3,499	238,391	43,414	3,000– 3,999	491,215	93,722
3,500– 3,999	236,886	70,784	4,000– 4,999	465,869	207,208
4,000– 4,499	243,383	99,705	5,000– 5,499	237,041	147,658
4,500– 4,999	246,440	130,038	5,500– 5,999	243,298	184,348
5,000– 5,499	262,673	172,643	6,000– 6,499	255,865	233,815
5,500– 5,999	280,124	224,332	6,500– 6,999	272,402	293,012
6,000– 6,499	325,174	307,163	7,000– 7,499	310,168	382,905
6,500– 6,999	353,505	381,303	7,500– 7,999	323,977	449,926
7,000– 7,499	346,419	416,483	8,000– 8,499	311,116	479,114
7,500– 7,999	326,429	432,951	8,500– 8,999	291,612	491,924
8,000– 8,499	302,120	438,836	9,000– 9,499	268,193	492,885
8,500– 8,999	268,248	427,614	9,500– 9,999	244,194	485,726
9,000– 9,499	235,830	408,911	10,000–10,499	219,459	471,842
9,500– 9,999	200,693	377,081	10,500–10,999	190,335	438,756
10,000–10,999	322,073	681,577	11,000–11,999	312,904	796,404
11,000–11,999	232,846	583,361	12,000–12,999	240,615	707,661
12,000–12,999	166,388	482,868	13,000–13,999	174,409	583,563
13,000–13,999	119,169	394,491	14,000–14,999	129,648	487,768
14,000–14,999	90,438	336,801	15,000–15,999	100,151	418,208
15,000–19,999	198,857	972,319	16,000–16,999	77,476	356,171
20,000–24,999	57,463	442,294	17,000–17,999	55,609	280,880
25,000–29,999	24,632	265,242	18,000–18,999	42,412	235,136
30,000–49,999	23,620	398,194	19,000–19,999	32,534	197,140
50,000 and over	6,643	262,215	20,000–24,999	82,391	611,522
Total	**5,334,818**	**8,767,981**	25,000–29,999	32,240	334,010
			30,000–49,999	32,870	531,851
			50,000–99,999	7,774	266,493
			100,000 and over	971	83,087
			Total	**5,527,309**	**10,750,124**

(*a*) Net income is 'Total assessable income less total deductions for expenses incurred in gaining that income'.

Partnerships and trusts

Income tax returns are required to be lodged on behalf of partnerships and trusts which, as partnerships and trusts, are not required to pay tax except in certain specified circumstances when they may be assessed as individuals. In general, the net income remaining after allowing all deductions including expenditure incurred in gaining the income is distributed to the partners or beneficiaries concerned and is assessable for tax in the respective individual returns.

The following table shows for the 1976–77 income year numbers, total business income and net income of partnerships and trusts. Greater detail is published in the statistical supplement to the annual report of the Commissioner of Taxation and in the report itself.

PARTNERSHIPS AND TRUSTS–INCOME YEAR 1976-77

Item		*Partnerships*	*Trusts*	*Total*
Number		479,198	130,036	609,234
Total business income	$'000	14,748,282	1,545,122	16,293,404
Net income(*a*)	$'000	4,602,847	765,845	5,368,692

(*a*) Total net income adjusted by subtraction of loss.

Taxes on income—companies

For taxation purposes companies are divided into two main groups—private and public. Broadly, a private company is defined as a company in which all the issued shares are held by not more than twenty persons; or which is capable of being controlled by not more than seven persons, and which is not a company in which the public is substantially interested; or which is a subsidiary of a public company. All other companies are regarded as public companies. Both private and public companies pay primary tax assessed on a taxable income ascertained on the same principles as for individuals.

Dividends received are assessable income; however, while resident companies receive a rebate at the average rate on the amount of dividends included in the taxable income, this rebate is not allowed to non-resident companies.

A private company is liable to pay additional tax upon the amount, if any, by which the dividends paid by the company within a prescribed period fall short of sufficient distribution as defined.

Rates of tax. The rates of primary income tax for all companies and additional tax for private companies applicable to income years 1969–70 to 1978–79 are shown in the following table.

RATES OF INCOME TAX: COMPANIES, 1969-70 TO 1978-79 INCOME YEARS
(Cents per $)

	Resident private company			*Resident public company(a)*		*Non resident company*			
	On taxable income		*Additional tax on undistributed income*	*On taxable income*		*On dividends income*		*On other income*	
Income years ended 30 June	*Up to $10,000*	*On remainder*		*Up to $10,000*	*On remainder*	*Up to $10,000*	*On remainder*	*Up to $10,000*	*On remainder*
1970	32.5	42.5	50	42.5	47.5	37.5	47.5	42.5	47.5
1971 and 1972	37.5	42.5	50	47.5	47.5	42.5	47.5	47.5	47.5
1973	45.0	45.0	50	47.5	47.5	47.5	47.5	47.5	47.5
1974	45.0	45.0	50	45.0	45.0	45.0	45.0	45.0	45.0
1975 and 1976	42.5	42.5	50	42.5	42.5	42.5	42.5	42.5	42.5
1977, 1978 and 1979	46.0	46.0	50	46.0	46.0	46.0	46.0	46.0	46.0

(*a*) Excludes co-operative, non-profit and life insurance companies.

For the income year ended 30 June 1974 the rate for companies other than friendly society dispensaries was 45 per cent, except that for the first $10,000 of taxable income of co-operative and non-profit companies (other than friendly society dispensaries) the rate was 42.5 per cent. The rate for friendly society dispensaries was 37.5 per cent.

For the income years ended 30 June 1975 and 1976 the rate for companies other than friendly society dispensaries was 42.5 per cent and for friendly society dispensaries it was 37.5 per cent.

For the income years ended 30 June 1977, 1978 and 1979 the rates were 46 per cent and 41 per cent respectively. Tax exemption levels for these years are set out below.

A non-profit company is not liable to income tax unless the taxable income exceeds $416. Where the non-profit company is a friendly society dispensary and the taxable income does not exceed $2,311 the maximum amount payable is 50 per cent of the excess over $416 less any rebate or credit to which the company is entitled. Where the taxable income of a non-profit company other than a friendly society dispensary does not exceed $2,542, the tax payable by the company is limited to 55 per cent of the amount by which the taxable income exceeds $416 less any rebate or credit to which the company is entitled. Other companies are assessed for income tax if the taxable income is $1 or more.

Details in respect of company income tax assessments for the 1976–77 income year are shown in the following table.

COMMONWEALTH INCOME TAX ASSESSMENTS: RESIDENT AND NON-RESIDENT COMPANIES BY GRADE OF INCOME AND OFFICE OF ASSESSMENT

(Income derived in the year 1976-77)

Grades of taxable income(a) ($) and office of assessment	*Taxable*			*Non-taxable*		
	Companies	*Taxable income(a)*	*Net income tax assessed(b)*	*Companies*	*Taxable income (a)(c)*	*Loss(d)*
	No.	$'000	$'000	No.	$'000	$'000
Loss for year	–	–	–	73,090	–	973,803
Nil	–	–	–	44,111	–	–
1– 1,999	32,535	17,983	7,726	4,919	3,659	–
2,000– 9,999	23,071	120,286	49,675	5,662	28,859	–
10,000– 19,999	10,701	152,837	62,194	2,134	30,078	–
20,000– 39,999	8,599	243,458	98,931	1,386	38,496	–
40,000– 99,999	7,248	449,077	183,633	891	53,896	–
100,000– 199,999	2,922	408,411	165,763	301	42,003	–
200,000– 399,999	1,692	475,489	190,759	162	43,914	–
400,000– 999,999	1,228	764,772	288,594	96	60,222	–
1,000,000–1,999,999	488	683,735	252,892	37	50,911	–
2,000,000 and over	570	5,290,531	1,783,647	21	120,308	–
New South Wales	39,823	2,853,805	1,001,862	61,724	209,002	468,325
Victoria	22,354	3,888,447	1,345,911	32,080	154,066	316,488
Queensland	8,682	995,253	389,108	12,284	23,782	60,852
South Australia	8,136	366,149	142,692	11,414	46,199	50,679
Western Australia	6,133	357,551	149,977	8,624	15,386	50,135
Tasmania	1,685	82,881	31,252	2,330	5,886	9,880
Northern Territory	509	14,363	6,293	707	1,351	6,225
Australian Capital Territory	1,732	48,128	16,720	3,647	16,675	11,218
Total	**89,054**	**8,606,578**	**3,083,816**	**132,810**	**472,346**	**973,803**

(*a*) Taxable income is the income remaining after deducting from assessable income all allowable deductions. (*b*) Excludes additional tax on the undistributed income of private companies. (*c*) Net tax assessed is nil because of rebates. (*d*) Not included in the figures shown for taxable income.

Yield of income taxes

Income taxes collected. The following table shows the net amounts of taxes collected and the proportions of the several components over recent years.

COMMONWEALTH INCOME TAXES COLLECTED: COLLECTION YEARS 1973-74 TO 1978-79

Source of income tax	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
NET AMOUNTS COLLECTED ($'000)						
Individuals—						
Instalments—salaries and wages	4,238,391	6,071,293	7,019,706	8,528,863	9,638,786	10,397,606
Other payments	1,251,872	1,642,726	2,199,685	2,524,781	2,490,216	2,406,212
Companies	1,953,927	2,358,809	2,522,837	2,824,459	3,095,321	3,036,520
Withholding tax	79,236	88,116	95,018	96,377	117,852	114,069
Total	**7,523,426**	**10,160,944**	**11,837,246**	**13,974,480**	**15,342,175**	**15,954,407**
PERCENTAGES						
Individuals—						
Instalments—salaries and wages	56.34	59.75	59.30	61.03	62.83	65.17
Other payments	16.64	16.17	18.58	18.07	16.23	15.08
Companies	25.97	23.21	21.31	20.21	20.18	19.03
Withholding tax	1.05	0.87	0.80	0.69	0.76	0.72
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Refunds of revenue. Income tax collections, as previously shown are net amounts after refunds of revenue made in the course of the year. Refunds are of two types: those charged to special appropriations under authority of the Income Tax Assessment Act and those charged to special appropriations under authority of the Audit Act. Income tax instalment refunds, by far the greatest part of income tax refunds, are made when the instalments deducted during the year exceed the tax assessed on incomes for that year. Refunds made from special appropriations under section 37A of the Audit Act include refunds of moneys paid to the revenue in error, refunds of tax overpaid, refunds due to the amendment of assessments, etc. Refunds of income tax to individuals during the collection years 1974–75 to 1978–79 were: 1974–75, $967,924,000; 1975–76, $1,535,935,000; 1976–77, $1,501,555,000; 1977–78, $1,218,225,000 and 1978–79, $1,407,257,225.

Estate duty

Prior to 1 July 1979 estate duty was levied under the *Estate Duty Assessment Act* 1914 and was assessed on the net value of the estate less a statutory exemption. In respect of estates of persons who died after 21 November 1977 no duty was payable on that part of the estate which passed to or for the benefit of the deceased persons' widow or widower, children, grandchildren, parents or grandparents. Duty is not payable on estates of any person dying on or after 1 July 1979. For estates of persons who died before 1 July 1979, where no part of the estate passed to the relatives mentioned above, duty was payable on the net value less statutory exemption as follows:

–for qualifying estates of deceased primary producers—$24,000
–for other estates—$20,000

decreasing by $2 for every $8 by which the value of the estate exceeds $24,000 or $20,000 as the case may be.

Additional information concerning a rural property rebate and higher exemption levels for primary producers, special exemptions for defence personnel and a quick succession rebate is given in Year Book No. 63, page 534.

The rates of duty remained unchanged from 1941 and increased as the value of the estate for duty increased, as follows: did not exceed $20,000, 3 per cent; $20,001 to $40,000, 3 per cent to 6 per cent; $40,001 to $240,000, 6 per cent to 26 per cent; $240,001 to $1,000,000, 26 per cent to 27.9 per cent; $1,000,000 or more, 27.9 per cent.

Particulars of the number and value of dutiable estates and duty assessed for recent assessment years are given in the following table.

COMMONWEALTH ESTATE DUTY ASSESSMENTS

		1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Estates	No.	12,052	13,621	13,447	13,793	15,154
Gross value as assessed	$'000	964,804	1,183,913	1,223,732	1,208,236	1,443,967
Deductions(*a*)	"	194,159	242,912	274,953	296,738	356,792
Statutory exemptions	"	238,212	318,706	317,087	335,596	344,482
Dutiable value	"	532,433	622,295	631,693	611,702	742,693
Net duty assessed	"	65,981	80,560	83,663	73,512	99,050
Average dutiable value	$	44,178	45,686	46,976	44,349	95,286
Average duty assessed per estate	$	5,475	5,914	6,222	5,330	6,536

(*a*) Debts, Exempt Estate and State Probate Succession Duties.

Gift duty

Prior to 1 July 1979 the *Gift Duty Act* 1941 and the *Gift Duty Assessment Act* 1941 imposed a gift duty on gifts which were defined as dispositions of property made otherwise than by will, without adequate consideration in money or money's worth. Both the donor and the donee were liable to furnish a return, and both were jointly and severally liable for payment of the duty. However, if a return was furnished by the donor, the donee is relieved of this obligation. Under the *Gift Duty Assessment Act* 1978, gifts to the donor's spouse, children, grandchildren, parents or grandparents made after 21 November 1977 were not subject to duty. Gift duty is not levied on any gifts made after 1 July 1979.

Certain exemptions from duty were provided, the more important being: payments to an employees' superannuation or like fund; retiring allowances or gratuities granted to employees; gifts to organisations not carried on for the profit of any individual; gifts to the Commonwealth Government or a State; and small gifts not exceeding $100.

The rate of gift duty applicable to any particular gifts was fixed by reference to the total value of all gifts made by the same donor within the period of eighteen months before and eighteen months after the time of making that gift. Where the total value of all gifts as defined did not exceed $10,000 no duty was payable. The rates of duty that applied to 30 June 1979 were (*a*) $10,001 to $20,000, 3 per cent provided that the gift duty payable did not exceed one half of the amount by which the gift exceeded $10,000 or a proportionate amount where more than one gift is involved; (*b*) $20,001 to $40,000, 3 per cent to 6 per cent; (*c*) $40,001 to $240,000, 6 per cent to 26 per cent; (*d*) $240,001 to $1,000,000 and over, 26 per cent to 27.9 per cent.

Particulars of the number of gift duty assessments, value of gifts as assessed and duty assessed for recent assessment years are given in the following table.

COMMONWEALTH GIFT DUTY ASSESSMENTS

		1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Assessments	No.	7,199	6,976	7,514	6,564	7,480	4,352
Value as assessed	$'000	130,875	199,454	297,020	164,259	187,085	103,058
Duty assessed	„	7,158	18,037	36,077	10,344	11,711	5,934

Customs duties

A description of the Australian Customs Tariff System is given in Chapter 24, Overseas Transactions. Details of duties collected on the import of commodities classified in accordance with the 'Brussels Nomenclature' are given in the following table.

GROSS CUSTOMS DUTIES ON IMPORTS ACCORDING TO BRUSSELS TARIFF DIVISIONS
($'000)

Brussels Tariff Division	*Source of receipts*	*1976–77*	*1977–78*	*1978–79*
1	Live animals; animal products	1,091	1,002	968
2	Vegetable products	1,430	1,167	1,252
3	Animal and vegetable fats and oils and their cleavage products; prepared edible fats; animal and vegetable waxes .	2,723	3,137	2,130
4	Prepared foodstuffs; beverages, spirits and vinegar; tobacco	176,125	182,297	217,377
5	Mineral products	13,103	5,581	2,941
6	Products of the chemical industry and allied industries . .	19,729	20,054	24,663
7	Artificial resins and plastic materials, cellulose esters and ethers, and articles thereof; rubber, synthetic rubbers, factice and articles thereof	53,513	62,693	72,159
8	Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of gut (other than silkworm gut) . .	12,882	13,826	17,242
9	Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto and of other plaiting materials; basketware and wickerwork	18,936	16,156	17,628
10	Paper-making material; paper and paperboard and articles thereof	18,426	21,955	28,589
11	Textiles and textile articles	143,320	146,226	189,838
12	Footwear, headgear, umbrellas, sunshades, whips, riding-crops and parts therefor; prepared feathers and articles made therewith; artificial flowers; articles of human hair; fans	26,491	30,926	39,710
13	Articles of stone, of plaster, of cement, of asbestos, of mica and of similar materials; ceramic products; glass and glassware	23,152	22,584	25,313
14	Pearls, precious and semi-precious stones, precious metals, rolled precious metals, and articles thereof; imitation jewellery; coin	8,721	9,275	10,872
15	Base metals and articles of base metal	59,740	60,242	68,897
16	Machinery and mechanical appliances; electrical equipment; parts therefor	243,851	223,344	257,921
17	Vehicles, aircraft, and parts therefor; vessels and certain associated transport equipment	281,690	259,041	330,316
18	Optical, photographic, cinematographic measuring, checking, precision, medical and surgical instruments and apparatus; clocks and watches, musical instruments; sound recorders and reproducers; television image and sound recorders and reproducers, magnetic; parts therefor . . .	28,677	25,742	24,787
19	Arms and ammunition; parts therefor	489	505	472
20	Miscellaneous manufactured articles	37,722	39,094	45,314
21	Works of art, collectors' pieces and antiques	442	336	467
	Primage	9,506	10,426	10,681
	Total customs duties and primage	**1,181,758**	**1,155,607**	**1,389,538**

The *net* customs duties on imports for these years are 1976–77, $1,152,016,000; 1977–78, $1,131,817,000; and 1978–79, $1,363,041,000.

Excise duties

Details of duties collected in relation to the production of specific commodities are given in the following table.

COMMONWEALTH EXCISE REVENUE: CLASSIFICATION OF GROSS RECEIPTS
($'000)

Source of revenue	*1976–77*	*1977–78*	*1978–79*
Beer	745,170	757,815	947,627
Spirits, including liqueurs, etc.	71,670	75,951	100,058
Tobacco (manufactured), snuff	20,665	19,149	22,186
Cigars and cigarettes	540,645	540,866	631,995
Aviation gasoline—by-law	2,427	2,902	3,486
Aviation gasoline—other	5	—	337
Other gasoline	675,651	727,579	762,630
Mineral turpentine	—	—	—
Coal tar and coke oven distillates, etc.	1	1	—
Aviation turbine kerosene	37,140	42,376	45,659
Kerosene, n.e.i.	197	—	—
Diesel fuel—by-law	76,133	85,533	98,732
Playing cards	127	132	140
Cigarette tubes, paper and papers	896	761	803
Matches	1,999	1,930	1,762
Wine—other than table wine (excise item 16)	1	—	1
Petroleum and liquid petroleum gas (excise item 17)	344,359	476,048	1,226,574
Coal	2,751	8,426	10,422
Canned fruit	277	294	285
Other and undistributed excise revenue	—	—	5
Total Gross Excise Duties	*2,520,118*	*2,739,766*	*3,852,702*
Total Gross Customs, Primage and Excise Duties	**3,701,876**	**3,895,373**	**5,242,240**
Total Customs, Primage and Excise Refunds and Drawbacks	57,082	52,556	59,610

Statistics of the value of duty included in the price of petroleum products purchased by Commonwealth Government departments and subsequently credited to those departments by the Department of Finance are not available. The net Commonwealth excise revenue for these years is: 1976–77, $2,485,420,000; 1977–78, $2,733,490,000; 1978–79, $3,844,686,000. The quantities of commodities on which excise duty was paid are given in Chapter 24, Overseas Transactions, page 682.

Sales tax

The general rate of tax levied on all goods other than those specified in the schedules to the *Sales Tax (Exemptions and Classifications) Act* 1935 is 15 per cent and goods subject to special rates are taxed at either 2.5 per cent or 27.5 per cent. Prior to 19 August 1970 these special rates were 2.5 per cent and 25 per cent.

Particulars of the sales of taxable goods in each rate class in each State for 1977–78 are given in the following table. The figures relate to sales during the period 1 July to 30 June.

COMMONWEALTH SALES TAX: SALE VALUE OF TAXABLE GOODS INCLUDED IN RETURNS IN EACH RATE CLASS, 1977–78

	Gross sales of goods taxable at various rates(a)				
State	*2½%*	*15%*	*27½%*	*Other*	*Total*
	$'000	$'000	$'000	$'000	$'000
New South Wales and A.C.T.	961,109	2,405,278	1,215,547	61,105	4,643,039
Victoria	837,102	1,914,686	859,386	32,275	3,643,449
Queensland	205,244	785,323	298,037	3,479	1,292,067
South Australia	191,511	449,846	196,454	4,356	842,168
Western Australia	130,608	418,257	193,169	4,081	746,111
Tasmania	30,983	90,332	53,827	191	175,329
Northern Territory	2,430	18,259	3,983	328	25,000
Australia—1977–78	**2,358,989**	**6,081,979**	**2,820,401**	**105,818**	**11,367,172**
1976–77	2,209,131	5,603,039	2,861,956	78,257	10,752,372
1975–76	2,012,769	4,512,942	2,297,963	228,387	9,052,061

(*a*) Estimated

Sales of taxable goods and sales tax payable for Australia are shown in the following table for recent years. The figures for sales tax payable differ from those for net collections shown on page 598 because the latter include some adjustments in respect of earlier tax years and relate to tax payable on returns lodged during the year, which, in general, cover sales for the period June to May.

COMMONWEALTH SALES TAX: SALE VALUE OF GOODS INCLUDED IN RETURNS AND COLLECTIONS

($'000)

			Net collections		
Year of sale	*Gross taxable sales*	*Estimated net taxable sales(a)*	*Taxation Office*	*Bureau of Customs*	*Total*
	(*b*)	(*b*)			
1972–73	4,996	4,798	741	24	765
1973–74	(*d*)6,606	6,293	935	34	969
1974–75	(*d*)7,739	7,345	1,103	51	1,154
1975–76	(*d*)9,044	8,586	1,360	49	1,408
1976–77	(*d*)10,752	10,220	(*c*)1,589	61	(*c*)1,650
1977–78	(*d*)10,841	10,252	1,695	63	1,758
1978–79	(*d*)12,306	11,567	1,699	71	1,770

(*a*) Represents gross taxable sales less discounts, goods returned, bad debts and other adjustments. (*b*) Statistics obtained from returns lodged at Taxation Office. (*c*) Adjusted. (*d*) Estimated.

In the foregoing tables, sales include goods transferred to stock for sale by retail, goods imported by persons other than registered taxpayers, and goods used in the business of the taxpayer. Exempt sales relate to goods exempted from sales tax under the *Sales Tax* (*Exemptions and Classifications*) *Act* 1935. The figures shown do not represent the total sales of all commodities, as vendors trading only in exempt goods are not required to be registered and, consequently, the volume of their sales is not included. In addition, non-taxable sales (i.e. goods sold by one registered taxpayer to another registered taxpayer) are excluded.

Primary production taxes and charges

The following section shows current rates of charges and levies on primary production. Further information is given in Chapter 13, Agricultural Industries.

Expenditure on research, funded from industry levies, is usually matched dollar-for-dollar by the Commonwealth Government.

Grain—Export Inspection Charge. Under the *Grain (Export Inspection Charge) Act* 1979 a levy is imposed on exports of wheat, oats, barley and sorghum to recoup half the cost of export grain inspection. The levy is 4.5 cents per tonne on bulk grain, 25 cents per tonne on bagged grain and 29 cents per tonne on grain in containers.

Wheat Export Charge and Wheat Tax. For details *see* Chapter 13, Agricultural Industries.

Wool Tax. The *Wool Tax Acts* 1964 (Nos 1 to 5) As Amended, impose a levy of 8 per cent on the gross value of wool sold of which 5 per cent is levied for the market support activities of the Australian Wool Corporation and 3 per cent to provide the growers' contribution towards wool research and promotion.

Wool Levy. During 1979–80 a levy of 52c per test is payable by wool brokers and private buyers on all wool samples tested in Australia. The levy, collected under the *Wool Industry Act* 1972 (Amendment 49 of 1979), provides 50 per cent of the cost of operating the Australian Wool Measurement Standards Authority.

Tobacco Charge. The rates of Tobacco Charge currently collected under the *Tobacco Charges Acts* (Nos 1 to 3) 1955 and used to fund research into tobacco growing problems are:

(*a*) in respect of leaf grown in Australia and sold to a manufacturer:
  (i) 1.1 cents per kilogram of leaf, payable by the grower or other persons who own the leaf immediately before sale and
  (ii) 2.2 cents per kilogram of leaf, payable by the manufacturer.
(*b*) in respect of leaf grown and used by grower–manufacturers:
  (i) 1.1 cents per kilogram of leaf where the manufacturer grows nine-tenths of the Australian tobacco leaf used by him and
  (ii) 2.2 cents per kilogram of leaf in other cases.

(*See* also Chapter 13, Agricultural Industries).

Dairy Industry Stabilization Levy. The Dairy Industry Stabilization Levy Act imposes a levy on the production of butter, butteroil, ghee, various milk powders, casein, caseinates and certain varieties of cheese. The levy is on products sold on the domestic market or used in the manufacture of other products. Basically the rate of levy is fixed at the difference between the domestic market return and the assessed average export return.

The purpose of the levy is to protect the domestic market through the equalisation of returns to manufacturers.

Dairying Research and Promotion Levy. The Dairying Industry Research and *Promotion Levy Act* 1972 provides for the imposition of a levy on all milk produced in Australia. The Act provides for the levy to be payable by dairy farmers either on a whole milk or butterfat basis. Monies collected from the levy finance the administration and promotional activities of the Australian Dairy Corporation and the industry contribution to the research programme recommended by the Dairying Research Committee. The Dairying Industry Research and Promotion Levy Regulations prescribe levies of either 10.4 cents per 100 litres of whole milk or 260 cents per 100 kilograms of butterfat.

Canned Fruits Levy. The *Canned Fruits Levy Act* 1979 imposes a levy on the production of canned fruits in Australia with effect from 1 January 1980.

The operative rates from that date are:

Containers not exceeding 150 grams—0.625/doz. containers.

Containers exceeding 150 grams but not exceeding 320 grams—1.25 cents/doz. containers.

Containers exceeding 320 grams but not exceeding 490 grams—2.5 cents/doz. containers.

Containers exceeding 490 grams but not exceeding 680 grams—3.75 cents/doz. containers.

Containers exceeding 680 grams—5 cents/doz. containers plus 3 cents/doz. containers for each 450 grams by which the gross weight of the container exceeds 900 grams.

The funds raised are to be used to finance the operation of the Australian Canned Fruits Corporation.

Canning Fruit Charge. The *Canning Fruit Charge Act* 1959 imposes a charge on the intake of canning apricots, peaches and pears by fruit canneries. The rate proposed for the 1980 canning fruit season is $0.50 per tonne. The revenue collected by way of the charge funds the operations of the Australian Canned Fruit Sales Promotion Committee.

Honey Levy and Honey Export Charge. The *Honey Levy Acts* (Nos 1 & 2) 1962 impose a levy of 1.8 cents per kilogram on honey sold for domestic consumption.

The *Honey Export Charge Act* 1973 imposes a charge of 0.5 cents per kilogram on honey exports.

The funds are used to finance the operations of the Australian Honey Board.

Livestock Slaughter Levy. The livestock *Slaughter Levy Act* 1964 imposes a levy which is payable on all cattle, calves, bobby calves, sheep, lambs, goats and buffaloes slaughtered for human consumption. The funds are used by the Australian Meat and Livestock Corporation (AMLC) for marketing and promotion, by the Australian Meat Research Committee (AMRC) for production and economic research and by the CSIRO for meat processing research. The Slaughter Levy also provides the funds for the eradication of brucellosis and tuberculosis in cattle and buffaloes.

The levies from 1 July 1979 are:

	Cents/Head				
	AMLC	*AMRC*	*CSIRO processing research*	*Disease eradication*	*Total*
Cattle	75	25	2	300	402
Calves	27	9	1	100	137
Bobby calves	7.5	2.5	0.2	30	40.2
Sheep, lambs, goats	7.5	3.33	0.2	—	11.03
Buffaloes	75	25	2	300	402

Livestock Slaughter Export Inspection Charge. An export inspection charge introduced on livestock slaughtered at export works from 1 July 1979, to recoup part of the cost of meat inspection incurred by the Commonwealth Government. The charges imposed under the *Livestock Slaughter (Export Inspection Charge) Act* 1979 are:

Cattle (180 cents/head), calves (60 cents/head), bobby calves (18 cents/head), sheep, lambs and goats (18 cents/head), buffaloes (180 cents/head), horses, donkeys, mules (180 cents/head), pigs (60 cents/head).

Export Inspection Charge—Overtime Recoveries—Meat. Under the *Customs Act* 1901 and the *Commerce (Trade Descriptions) Act* 1905, a levy at the rate prescribed in the Export Meat Regulations is levied on export meat-works to recover fully the cost of providing export meat inspection services outside normal hours.

Livestock Export Charge. The Livestock *Export Charge Act* 1977 imposes charges which apply to all cattle, buffaloes, sheep, lambs and goats exported live from Australia. The funds are allocated to the Australian Meat and Livestock Corporation (AMLC), the Australian Meat Research Committee (AMRC) and for disease eradication.

The charges from 1 July 1979 are:

	Cents/Head			
	AMLC	*AMRC*	*Disease eradication*	*Total*
Cattle	75	25	300	400
Sheep, lambs, goats	7.5	3.33	—	10.83
Buffaloes	75	25	300	400

Export Inspection Charges—Miscellaneous. By arrangement, Commonwealth inspectors are provided to (i) abattoirs that are not registered export establishments to inspect meat for domestic consumption and to (ii) State Dried Fruit Boards to inspect dried fruit for domestic use.

The inspection charge in those cases is arrived at by agreement between the parties concerned.

Pig Slaughter Levy. A slaughter levy under the *Pig Slaughter Levy Act* 1971 is payable on all pigs slaughtered for human consumption. The funds are used by the Australian Pig Industry Research Committee for production and marketing research and by the Pigmeat Promotion Advisory Committee for promotional activities within Australia. The present operative levy is 21 cents per pig. Of this amount 13 cents is for promotion and 8 cents for research.

Meat Chicken Levy. A levy is payable under the *Meat Chicken Levy Act* 1969 on meat chickens hatched for human consumption. The funds are used by the Australian Chicken Meat Research Committee for research into problems associated with the chicken meat industry. The operative rate of levy is 0.1 cent per chicken.

Poultry Industry Levy. The *Poultry Industry Levy Act* 1965 imposes a levy at a maximum rate of $2.00 per hen per annum on domesticated fowls kept for commercial purposes. The operative rate of levy is 7 cents per bird per fortnight on the number of hens kept. The levy is payable on each prescribed day which is every second Thursday. The levy is designed to provide assistance to the poultry industry.

Wine Grapes Levy. The *Wine Grapes Levy Act* 1979 imposes a levy on prescribed goods used at a winery in Australia in the manufacture of wine. The operative rate of levy is $2.40 per tonne of fresh grapes with provision for conversion of dried grapes and grape juice to their fresh grape equivalents. Funds raised by the levy are used to finance the Australian Wine Board.

Dried Vine Fruits Levy. In order to meet the objectives of the Dried Vine Fruits Stabilization Scheme the *Dried Vine Fruits Levy Act* 1971 imposes a levy on dried vine fruit where the average return for a season exceeds by more than $10 the amount per tonne that constitutes the base price for that season with a maximum levy of $20 per tonne provided the quantity received for packing in a season exceeds 50,000 tonnes. When average returns fall more than $10 below the base price, the Government guarantees to growers a pay-out from the fund to a maximum of $25 per tonne to a total of $1.5 million.

Dried Fruit Export Charges. The *Dried Fruit Export Charges Act* 1924–78 imposes a levy of $4.50 per tonne on the export of dried currants, sultanas and raisins. The funds are used to finance the Australian Dried Fruits Corporation.

Dried Vine Fruits Equalisation Levy. The *Dried Vine Fruits Equalisation Levy Act* 1978 imposes a levy on domestic sales of dried vine fruit which is equal to the difference between the assessed returns per tonne from the domestic market and the assessed average returns per tonne from export. The purpose of the levy is to facilitate the equalisation of returns to producers from all markets.

Dried Fruits Levy. The *Dried Fruits Levy Act* 1971 imposes a levy on dried fruits of a season received for packing in order to extend industry research programmes. In 1978–79 the rate of levy was for dried vine fruits $1.00 per tonne, dried tree fruits $5.00 per tonne and prunes $2.50 per tonne. These rates will also apply in 1979–80.

Apple and Pear Levies. The *Apple and Pear Levy Act* 1976 imposes a levy on the production and sale of apples and pears in Australia excluding fruit sent for export and pears delivered for the manufacture of canned fruit. The rates of the levy are: fresh market 5 cents per box; juicing 50 cents per tonne; processing $1.00 per tonne.

The *Apple and Pear Export Charge Act* 1976 provides for the imposition of a charge on apples and pears exported from Australia. The rate of charge is 5 cents per box.

Monies collected from both the levy and the export charge are used to fund the operations of the Australian Apple and Pear Corporation.

Oilseeds Research Levy. The *Oilseeds Levy Act* 1977 imposes a levy on the production of sunflower seed, safflower seed, soybeans, linseed and rape seed. The levy is used to fund research programmes. The operative rate of levy is $1 per tonne.

Fishing Licences and Charges. Under the *Fisheries Act* 1952, domestic and foreign boats are licensed to fish in the Australian Fishing Zone. Other charges such as access fees for foreign countries are also levied under this Act. The rate of licence fees is set out in the Fisheries Regulations.

COMMONWEALTH PRIMARY PRODUCTION TAXES
($'000)

	1976–77	*1977–78*	*1978–79*
Apple and pear export charge	121	162	212
Apple and pear export duty	—	—	129
Apple and pear levy	159	621	565
Butterfat levy	85	—	—
Canned fruit export charge	195	131	176
Canning fruit charge	107	67	123
Dairy industry stabilization levy	—	53,085	80,255
Dairying research and promotion levy	3,077	3,360	5,674
Dried fruits export charge	197	147	227
Dried fruits levy	49	86	89
Honey export charge	22	13	24
Honey levy	158	158	186
Livestock slaughter levy—			
Cattle	5,389	5,928	5,734
Pigs	360	483	572
Sheep and lambs	1,546	1,377	1,311
Eradication of disease	8,562	10,498	9,710
Meat export charge—			
Cattle meat	69	98	31
Other meat	6	56	289
Oil seeds research levy	—	89	375
Meat chicken levy	160	183	189
Poultry industry levy	11,414	10,807	10,603
Tobacco charge	496	495	514
Wheat export charge	60,065	—	60,000
Wheat tax	1,641	1,286	3,466
Wine grapes charges	1,035	1,109	1,030
Wool tax	94,093	89,129	101,608
Total	**189,006**	**179,368**	**283,092**

Pay-roll tax

Commonwealth pay-roll tax came into operation on 2 May 1941 and provided for the imposition of a tax on wages paid or payable in respect of any period of time occurring after 30 June 1941. The tax was payable by employers on all wages and salaries paid or payable in excess of a general exemption. The rate of tax, 2.5 per cent, was not changed after its inception, but the general exemption was increased over the years from $173.33 to $1,733.33 per month ($2,080 per annum to $20,800 per annum).

From 1 September 1971, in accordance with an agreement between the Commonwealth Government and the States following the June 1971 Premiers' Conference, the Commonwealth Government vacated the pay-roll tax field in favour of the States. It continued, however, to impose pay-roll tax in the Australian Capital Territory and the Northern Territory. The laws relating to pay-roll tax in the Territories are the *Pay-roll Tax (Territories) Assessment Act* 1971 and the *Pay-roll Tax (Territories) Act* 1971.

From 1 December 1974 the rate of tax payable in the Territories has been 5 per cent with a statutory exemption of wages up to $1,733.33 per month ($20,800 per annum) or a proportion of that amount in the case of an employer who is an employer also in a State.

The *Pay-roll Tax (Territories) Assessment Act* 1976 raised the level of the general exemption from pay-roll tax in the Territories from $20,800 to $48,000 per annum with effect from 1 January 1977. However the exemption was reduced by $2 for every $3 by which the annual pay-roll exceeded $48,000. The maximum general exemption was increased to $60,000 from 1 July 1978 under the *Pay-roll (Territories) Assessment Amendment Act* 1978. Commonwealth pay-roll tax in the Northern Territory was terminated from 1 July 1978 by the *Pay-roll Tax (Territories) Assessment Amendment Act (No. 2)* 1978 giving the Territory the right to levy its own pay-roll tax.

The *Pay-roll (Territories) Assessment Amendment Act* 1979 increased the maximum exemption level in the Australian Capital Territory to $66,000 with effect from 1 January 1979. Phasing out remains at $2 for each $3 by which the annual wages payable exceed the maximum exemption level.

On vacating the pay-roll tax field in favour of the States the Commonwealth Government introduced an export incentive grant scheme to provide grants in respect of the 1971–72 and 1972–73 financial years equal to the rebates which would have been payable for those years if the pay-roll tax rebate scheme which had operated from the 1960–61 financial year had continued in operation until it expired on 30 June 1974. The export incentive grant scheme has now been replaced by a new system of export incentive grants administered by the Department of Trade and Resources.

Gross collections of pay-roll tax in 1977–78 and 1978–79 amounted to $22,488,331 and $16,229,418 respectively. Refunds of pay-roll tax during 1977–78 and 1978–79 under the pay-roll tax rebate scheme amounted to $103,336 and nil respectively.

Gross operating surplus of public enterprises

The *gross operating surplus* of public *trading* enterprises is the excess over working expenses of total revenue from charges before providing for capital consumption and other costs of capital (i.e. interest, debt redemption). *Financial* enterprises do not charge directly, at least not in full, for the services they render; that expenditure is largely financed by net receipts of interest and other transfer income. By convention, the output of these enterprises is valued at cost, so that no operating surplus is recorded in their production accounts. The profits of these enterprises are attributable to their property income. *Income* (including depreciation) of public financial enterprises is therefore arrived at after deducting interest paid and working expenses (i.e. net current expenditure on goods and services) from total receipts of interest and non-dwelling rent.

In the following table the revenue, working expenses and gross operating surplus of public trading enterprises are shown; public financial enterprises are reflected simply on the basis of their income (including depreciation). Further information relating to the more important of these enterprises may be found in the chapters dealing with banking, housing, railways, electric power generation, etc.

COMMONWEALTH AUTHORITIES: PUBLIC TRADING ENTERPRISES: REVENUE, WORKING EXPENSES AND GROSS OPERATING SURPLUS, CLASSIFIED BY INDUSTRY

($ million)

Industry	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
REVENUE						
Manufacturing	23.4	28.5	34.0	48.9	54.7	58.5
Electricity	61.1	66.8	76.0	84.1	96.2	105.1
Water supply, sewerage and drainage	4.3	5.0	5.0	7.6	9.6	12.5
Transport and communication—						
Air transport	391.1	483.3	592.5	704.7	808.7	929.7
Rail transport	31.2	37.2	41.4	108.2	122.9	121.7
Sea transport	93.0	113.4	145.4	204.3	282.6	319.7
Urban transit systems	7.7	8.9	9.3	14.0	16.8	15.8
Pipelines	—	—	—	—	2.8	11.7
Communication	983.3	1,162.7	1,444.0	2,008.7	2,314.6	2,521.2
Total transport, etc.	*1,506.3*	*1,805.6*	*2,232.7*	*3,039.9*	*3,548.4*	*3,919.8*
Commerce	64.5	52.2	43.4	207.9	149.6	246.4
Property and business services—						
Housing	15.8	20.9	21.9	22.8	22.7	26.6
Other	9.1	11.8	18.7	25.5	25.7	36.5
Total property, etc.	*24.9*	*32.7*	*40.6*	*48.3*	*48.4*	*63.2*
Community, social and personal services	10.4	11.9	16.9	22.8	22.7	28.2
Total revenue	**1,695.0**	**2,002.6**	**2,448.5**	**3,459.5**	**3,929.6**	**4,433.7**
WORKING EXPENSES(*a*)						
Manufacturing	21.9	28.5	35.0	46.9	52.4	55.6
Electricity	14.3	18.6	29.3	37.3	48.3	56.9
Water supply, sewerage and drainage	2.6	3.1	3.9	4.9	6.1	7.3
Transport and communication—						
Air transport	329.6	413.3	550.7	647.6	722.7	833.8
Rail transport	29.2	38.8	50.6	154.3	170.1	184.9
Sea transport	75.1	95.5	136.8	184.2	231.2	261.7
Urban transit systems	7.0	9.8	12.3	16.7	19.1	19.9
Pipelines	—	—	—	—	1.4	3.4
Communication	608.5	778.0	986.1	1,219.8	1,456.4	1,600.6
Total transport, etc.	*1,049.4*	*1,335.3*	*1,736.4*	*2,222.6*	*2,600.9*	*2,904.3*
Commerce	69.3	54.1	68.6	248.3	160.7	251.1
Property and business services—						
Housing	14.1	19.3	23.9	25.7	24.3	27.7
Other	8.4	11.0	18.2	24.3	23.8	35.0
Total property, etc.	*22.5*	*30.3*	*42.1*	*50.0*	*48.2*	*62.7*
Community, social and personal services	7.8	9.1	14.1	19.7	19.1	24.0
Total working expenses	**1,187.9**	**1,479.1**	**1,929.3**	**2,629.6**	**2,935.7**	**3,362.0**
GROSS OPERATING SURPLUS						
Manufacturing	1.5	–0.1	–1.0	2.0	2.3	2.9
Electricity	46.8	48.2	46.7	46.8	47.9	48.2
Water supply, sewerage and drainage	1.7	1.9	1.1	2.6	3.5	5.2
Transport and communication—						
Air transport	61.5	70.0	41.8	57.1	86.0	95.9
Rail transport	2.1	–1.6	–9.2	–46.1	–47.2	–63.2
Sea transport	17.9	18.0	8.7	20.1	51.4	58.0
Urban transit systems	0.7	–0.8	–3.0	–2.7	–2.4	–4.1
Pipelines	—	—	—	—	1.4	8.3
Communication	374.8	384.7	458.0	788.9	858.2	920.7
Total transport, etc.	*456.9*	*470.3*	*496.3*	*817.3*	*947.5*	*1,015.5*
Commerce	–4.9	–1.9	–25.1	–40.4	–11.1	–4.7
Property and business services—						
Housing	1.8	1.6	–2.1	–2.9	–1.6	–1.0
Other	0.7	0.7	0.5	1.2	1.8	1.5
Total property, etc.	*2.5*	*2.3*	*–1.6*	*–1.7*	*0.2*	*0.5*
Community, social and personal services	2.6	2.8	2.9	3.2	3.6	4.1
Total gross operating surplus	**507.1**	**523.5**	**519.2**	**829.8**	**993.9**	**1,071.7**

(*a*) Exclude depreciation and interest charges.

STATE AUTHORITIES

The State authorities dealt with in this section include the central government of each State, statutory bodies created by or under State legislation to carry out activities on behalf of the central government, and incorporated organisations in which individual State governments have a controlling interest.

The transactions of many of the State authorities are itemised in State Consolidated Revenue Funds or in Trust Funds, so that a satisfactory coverage of their transactions can be obtained from a detailed analysis and reclassification of the published accounts whose receipts and payments are summarised in the statement of Treasury balances for each State. The remaining statutory bodies and other publicly owned or controlled organisations maintain accounts entirely, or largely, separate from the public accounts, although there may be transactions between them and State governments (such as advances and capital contributions, interest and dividends, and votes for running expenses and capital works) which would affect the public accounts. The accounting reports of this group of organisations have to be collected and analysed in order to present a complete statement of the transactions of State authorities—or at least methods of analysis need to be adopted which adequately reflect their transactions so that they are, in principle, covered by the statistics.

In the figures which follow in this section, all expenditure by State central government authorities on certain institutions, whether direct (e.g. new building charged to Loan Fund) or indirect by way of current or capital grants to the bodies administering them, has been treated as final expenditure on goods and services by State authorities; fees and gifts from persons or private businesses to these institutions are not included, nor is the expenditure of the institutions from their own resources. Universities and hospitals are particular examples of organisations for which this practice has been adopted.

Many of these State authorities have been granted autonomy by State legislatures to the extent that they are largely financially independent. Some of these are funded from earmarked tax revenues and are vested with independent borrowing powers. A considerable number of others belong to the category of public enterprises, since they are able to charge for their services so as to cover their costs of operation. These bodies have usually been created to control a specific activity or provide a specific service within a State. It is often the case that in other States similar activities are carried out, or services are provided, by central government or local authorities. Details of the activities of autonomous or semi-autonomous State authorities engaged in such fields as construction and maintenance of roads and bridges, provision of water supply and sewerage services, harbour facilities, transport, electricity and gas, housing and banking may be found in chapters relevant to those subjects and in State Year Books.

Details of the transactions of State authorities are given in the tables which follow. Reference should be made to the introduction of *State and Local Government Finance, Australia* 1978–79 (5504.0) for definitions and descriptions of items appearing in these tables, and also for further details of the organisations covered by the figures. Additional information relating to the activities of the State authorities may also be found in the Year Books of the individual States.

Outlay and receipts

The outlay and receipts of State authorities for the six year period ended 1977–78 are given in the following table.

STATE AUTHORITIES(*a*): OUTLAY AND RECEIPTS

($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
OUTLAY						
Final consumption expenditure	2,837.9	3,642.2	5,245.0	6,824.6	8,143.4	9,280.2
Gross capital formation—						
Increase in stocks	1.6	16.0	55.2	30.8	30.6	49.9
Expenditure on new fixed assets	2,033.1	2,295.2	3,334.4	3,911.0	4,207.9	4,747.7
Expenditure on existing assets (net)	81.7	172.5	224.0	181.9	138.9	102.6
Total gross capital formation	*2,116.4*	*2,483.6*	*3,613.6*	*4,123.7*	*4,377.3*	*4,900.2*
Transfer payments—						
Interest	889.8	951.5	1,056.2	1,198.3	1,428.3	1,693.6
Transfers to persons	154.3	166.1	185.4	220.1	246.9	279.1
Subsidies	28.4	32.1	40.6	44.4	55.6	80.1
Transfers overseas	–	–	0.1	0.1	0.1	0.1
Grants for private capital purposes	20.7	30.7	55.1	61.3	55.0	63.4
Grants to local authorities	173.9	153.1	275.7	338.6	394.6	475.5
Total transfer payments	*1,267.2*	*1,333.5*	*1,613.0*	*1,862.8*	*2,180.6*	*2,591.8*
Net advances—						
To the private sector	54.0	39.2	147.5	166.5	190.8	206.2
To public financial enterprises	50.0	62.0	91.4	84.7	83.4	109.0
To local authorities	5.9	6.0	17.9	18.6	16.0	13.3
Total net advances	*109.9*	*107.2*	*256.9*	*269.9*	*290.2*	*328.4*
Total outlay	**6,331.4**	**7,566.5**	**10,728.5**	**13,080.9**	**14,991.5**	**17,100.6**
of which—						
current outlay	4,084.3	4,945.0	6,802.9	8,626.1	10,268.9	11,808.6
capital outlay	2,247.0	2,621.5	3,925.6	4,454.8	4,722.5	5,292.0
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	1,781.0	2,206.6	2,792.2	3,469.7	3,973.1	4,300.7
Income from public enterprises	370.1	297.7	205.1	330.1	354.3	383.0
Interest, etc., received	256.4	318.1	424.7	443.6	589.5	704.5
Grants from the Commonwealth Government—						
for current purposes	2,075.9	2,533.4	3,735.0	5,427.5	6,110.2	7,215.3
for capital purposes	706.2	898.6	1,409.8	1,556.6	1,537.3	1,508.9
Grants for local authorities	21.5	22.6	25.9	32.6	32.3	36.8
Total receipts	*5,211.0*	*6,276.9*	*8,592.6*	*11,260.1*	*12,596.7*	*14,149.1*
Financing items—						
Net borrowing—						
Public trading enterprises	302.9	336.5	415.8	558.7	664.8	882.6
General government	39.1	60.8	74.7	113.0	127.4	117.8
Advances from the Commonwealth Government (net)—						
For loan works purposes	601.2	448.0	592.2	708.7	744.7	784.8
Other	66.3	300.7	632.7	663.8	533.4	476.3
Net receipts of private trust funds	93.1	102.6	153.6	33.4	244.7	232.0
Reduction in cash and bank balances	–229.6	–254.2	–30.8	–743.6	–408.3	113.4
Reduction in security holdings—						
Investment of private trust funds	61.5	34.2	51.0	11.8	–61.8	–99.9
Investment of governmental trust funds and public corporations	–15.1	–57.6	1.6	–0.8	–56.4	–240.8
Other funds available (including errors and omissions)—						
Depreciation allowances	269.0	289.1	270.9	311.5	352.6	422.0
Other	54.9	97.7	76.2	164.4	253.7	263.2
Total financing items	*1,120.3*	*1,289.6*	*2,135.9*	*1,820.8*	*2,394.8*	*2,951.4*
Total funds available	**6,331.4**	**7,566.5**	**10,728.5**	**13,080.9**	**14,991.5**	**17,100.6**

(*a*) Excludes financial enterprises.

The following table provides details of the outlay and receipts of State authorities in each of the six States.

STATE AUTHORITIES(*a*): OUTLAY AND RECEIPTS BY STATE, 1977–78

($ million)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
OUTLAY							
Final consumption expenditure	3,158.4	2,493.1	1,341.2	972.8	960.2	354.5	9,280.2
Gross capital formation—							
Increase in stocks	28.0	4.5	10.6	4.7	0.3	1.7	49.9
Expenditure on new fixed assets	1,545.5	1,306.3	754.7	431.4	498.0	211.9	4,747.7
Expenditure on existing assets (net)	27.9	58.5	–6.8	20.7	0.5	1.6	102.6
Total gross capital formation	*1,601.4*	*1,369.4*	*758.6*	*456.8*	*498.8*	*215.2*	*4,900.2*
Transfer payments—							
Interest	519.5	529.4	230.9	183.5	148.2	82.0	1,693.6
Transfers to persons	120.9	66.8	37.4	18.2	25.1	10.8	279.1
Subsidies	36.6	21.4	10.5	2.2	3.7	5.7	80.1
Transfers overseas	–	0.1	–	–	–	–	0.1
Grants for private capital purposes	18.6	19.9	9.6	11.3	3.3	0.7	63.4
Grants to local authorities	153.6	127.0	101.8	36.9	45.4	10.8	475.5
Total transfer payments	*849.3*	*764.5*	*390.1*	*252.1*	*225.7*	*110.0*	*2,591.8*
Net advances—							
To the private sector	–5.2	89.6	57.7	48.0	12.5	3.5	206.2
To public financial enterprises	69.3	5.1	–	34.7	–0.1	–	109.0
To local authorities	1.1	1.8	8.6	–0.1	–2.1	4.0	13.3
Total net advances	*65.1*	*96.5*	*66.3*	*82.6*	*10.4*	*7.5*	*328.4*
Total outlay	**5,674.2**	**4,723.5**	**2,556.2**	**1,764.3**	**1,695.1**	**687.3**	**17,100.6**
of which—							
current outlay	3,989.1	3,237.7	1,721.7	1,213.6	1,182.6	463.8	11,808.6
capital outlay	1,685.1	1,485.8	834.4	550.7	512.5	223.5	5,292.0
RECEIPTS AND FINANCING ITEMS							
Receipts—							
Taxes, fees, fines, etc.	1,685.6	1,315.9	504.1	355.3	343.2	96.6	4,300.7
Income from public enterprises	24.4	185.0	60.6	45.9	22.9	44.1	383.0
Interest, etc., received	220.7	149.3	148.6	63.1	101.8	21.0	704.5
Grants from the Commonwealth Government—							
for current purposes	2,332.3	1,767.8	1,196.6	799.6	815.3	303.6	7,215.3
for capital purposes	481.8	357.3	271.9	160.7	157.5	79.7	1,508.9
Grants from local authorities	15.5	8.1	5.1	3.9	2.0	2.2	36.8
Total receipts	*4,760.4*	*3,783.4*	*2,186.9*	*1,428.6*	*1,442.7*	*547.2*	*14,149.1*
Financing items—							
Net borrowing—							
Public trading enterprises	250.9	416.8	78.0	49.2	60.2	27.5	882.6
General government	30.4	4.2	58.7	17.3	6.3	0.9	117.8
Advances from the Commonwealth Government (net)—							
For loan works purposes	250.8	198.0	103.9	103.4	71.6	57.2	784.8
Other	139.4	116.3	52.5	88.6	55.7	23.8	476.3
Net receipts of private trust funds	16.4	28.1	138.2	10.1	26.7	12.5	232.0
Reduction in cash and bank balances	13.5	228.6	–158.2	30.1	–12.8	12.3	113.4
Reduction in security holdings—							
Investments of private trust funds	–6.1	–49.5	–	–9.8	–22.7	–11.8	–99.9
Investments of governmental trust funds and public corporations	–12.0	–231.1	–2.9	9.7	–9.9	5.5	–240.8
Other funds available (including errors and omissions)—							
Depreciation allowances	155.3	127.8	54.7	32.3	42.2	9.6	422.0
Other	75.2	101.0	44.3	4.8	35.2	2.7	263.2
Total financing items	*913.8*	*940.1*	*369.2*	*335.7*	*252.4*	*140.1*	*2,951.4*
Total funds available	**5,674.2**	**4,723.5**	**2,556.2**	**1,764.3**	**1,695.1**	**687.3**	**17,100.6**

(*a*) Excludes financial enterprises.

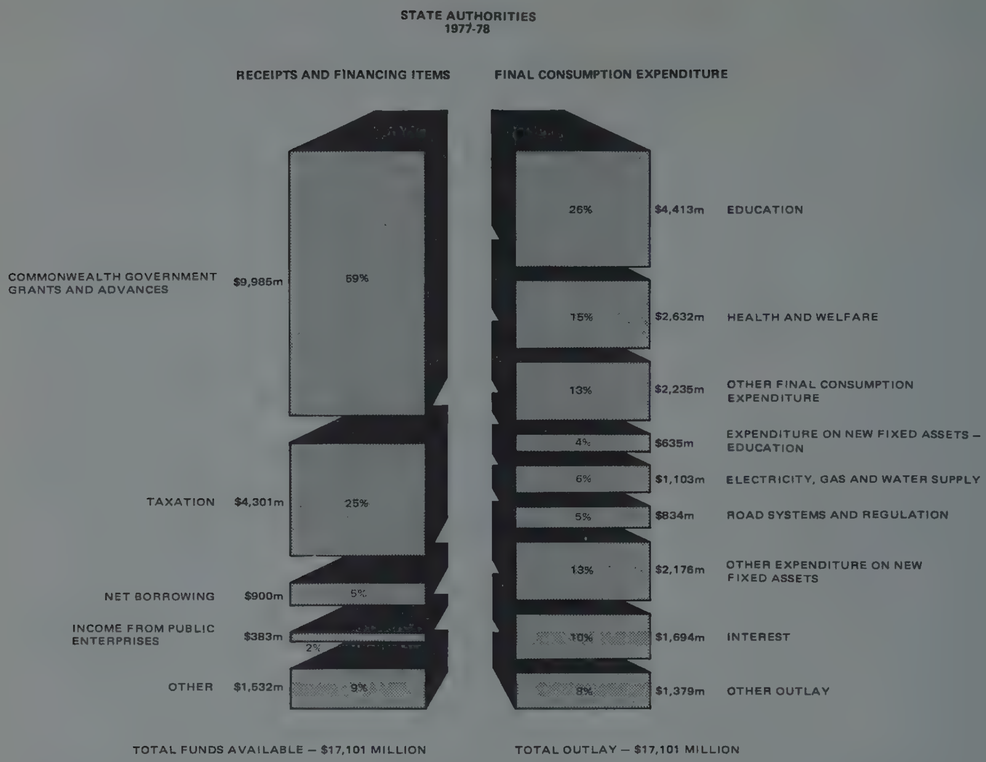

STATE AUTHORITIES
1977-78
RECEIPTS AND FINANCING ITEMS
FINAL CONSUMPTION EXPENDITURE
COMMONWEALTH GOVERNMENT GRANTS AND ADVANCES $9,985m 59%
TAXATION $4,301m 25%
NET BORROWING $900m 5%
INCOME FROM PUBLIC ENTERPRISES $383m 2%
OTHER $1,532m 9%
26% $4,413m EDUCATION
15% $2,632m HEALTH AND WELFARE
13% $2,235m OTHER FINAL CONSUMPTION EXPENDITURE
4% $635m EXPENDITURE ON NEW FIXED ASSETS – EDUCATION
6% $1,103m ELECTRICITY, GAS AND WATER SUPPLY
5% $834m ROAD SYSTEMS AND REGULATION
13% $2,176m OTHER EXPENDITURE ON NEW FIXED ASSETS
10% $1,694m INTEREST
8% $1,379m OTHER OUTLAY
TOTAL FUNDS AVAILABLE – $17,101 MILLION
TOTAL OUTLAY – $17,101 MILLION

PLATE 44

Main components of outlay

The main component of the outlay of State authorities is expenditure on goods and services. As in the case of authorities of the Commonwealth Government, this expenditure consists mainly of final consumption expenditure and expenditure on new fixed assets. The following tables show final consumption expenditure and expenditure on new fixed assets classified by purpose for State Authorities.

STATE AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE

($ million)

Purpose	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
General public services—						
Law, order and public safety	318.5	392.5	541.1	659.0	770.9	883.2
General administration, n.e.c.	204.1	236.8	334.4	414.2	512.7	590.3
Education	1,380.4	1,797.2	2,597.9	3,224.0	3,871.1	4,412.9
Health	581.7	796.6	1,209.3	1,838.1	2,212.6	2,489.9
Social security and welfare	57.5	61.1	87.6	105.8	119.9	142.3
Housing and community amenities—						
Housing	1.7	2.1	2.9	4.1	5.7	5.8
Community and regional development	7.0	9.2	16.4	20.2	22.0	27.2
Protection of the environment, and community amenities	3.9	6.7	11.9	17.6	22.1	25.1
Recreation and culture	34.4	42.5	58.7	79.3	96.5	121.1
Economic services—						
Agriculture, forestry, fishing	152.5	179.7	226.2	267.0	295.9	336.8
Mining, manufacturing and construction	26.1	28.7	37.0	45.2	49.3	53.6
Electricity, gas and water supply	1.7	1.0	4.4	7.6	6.0	7.7
Rail transport (*a*)	1.5	–	1.1	1.2	0.8	1.0
Sea transport	0.2	3.8	3.9	4.1	4.6	5.6
Road systems and regulation	9.5	10.0	10.6	11.9	15.0	19.1
Other transport services, n.e.c.	1.7	2.3	2.9	5.0	5.0	4.9
Other economic services(*b*)	54.9	71.3	97.4	119.6	132.1	151.6
Other purposes	0.5	0.9	1.3	0.8	1.3	2.0
Total	**2,837.9**	**3,642.2**	**5,245.0**	**6,824.6**	**8,143.4**	**9,280.2**

(*a*) Includes suburban rail transport systems. (*b*) Includes general administration, regulation and research.

STATE AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE 1977-78

($ million)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
General public services—							
Law, order and public safety	312.0	201.5	150.1	87.0	97.0	35.7	883.2
General administration, n.e.c.	229.2	124.8	110.3	45.9	50.2	29.9	590.3
Education	1,474.8	1,320.6	593.0	473.5	405.2	146.0	4,412.9
Health	894.9	619.5	323.1	267.5	297.8	87.2	2,489.9
Social security and welfare	29.3	45.1	29.1	18.6	16.3	3.9	142.3
Housing and community amenities—							
Housing	1.7	1.5	–	1.0	0.8	0.8	5.8
Community and regional development	10.1	11.3	–	3.9	1.8	0.2	27.2
Protection of the environment, and community amenities	5.8	10.8	2.3	3.4	1.9	0.9	25.1
Recreation and culture	34.9	29.7	15.2	17.5	13.2	10.5	121.1
Economic services—							
Agriculture, forestry, fishing	94.4	73.0	91.5	25.0	29.8	23.2	336.8
Mining, manufacturing and construction	18.1	5.0	6.7	7.7	12.9	3.2	53.6
Electricity, gas and water supply	1.2	–1.4	2.9	0.1	4.4	0.7	7.7
Rail transport(*a*)	–	0.5	–	–	0.5	–	1.0
Sea transport	6.4	–	–1.8	0.9	–	0.1	5.6
Road systems and regulation	2.8	10.6	2.5	1.2	1.0	0.9	19.1
Other transport services, n.e.c.	1.8	1.6	0.2	0.5	0.5	0.1	4.9
Other economic services(*b*)	40.8	38.4	15.9	19.3	26.2	10.9	151.6
Other purposes	–	0.7	–	–	0.8	0.3	2.0
Total	**3,158.5**	**2,493.1**	**1,341.2**	**972.8**	**960.2**	**354.5**	**9,280.2**

(*a*) Includes suburban rail transport systems. (*b*) Includes general administration, regulation and research.

STATE AUTHORITIES(*a*): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE

($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
General public services—						
Law, order and public safety	34.6	39.3	47.4	64.0	76.4	96.5
General administration, n.e.c.	28.4	37.9	60.3	82.1	87.3	114.2
Education	297.6	349.0	609.2	618.5	574.8	635.1
Health	97.5	123.8	202.9	320.0	327.3	321.3
Social security and welfare	6.0	8.1	8.3	8.8	12.2	11.0
Housing and community amenities—						
Housing	81.8	122.4	283.0	259.4	247.9	307.6
Community and regional development	1.4	2.4	12.2	35.1	43.9	38.5
Protection of the environment, and community amenities	203.9	236.6	298.2	330.9	343.1	350.4
Recreation and culture	30.0	20.6	18.6	25.2	34.3	48.4
Economic services—						
Agriculture, forestry, fishing	102.8	109.0	147.2	175.3	206.4	221.0
Mining, manufacturing and construction	29.3	42.8	59.7	61.9	63.3	61.6
Electricity and gas	318.6	339.6	437.1	539.0	651.9	828.2
Water supply	141.1	153.3	198.8	238.3	259.9	274.9
Rail transport(*b*)	139.9	139.5	217.8	276.9	312.9	387.1
Sea transport	60.9	62.9	76.2	84.9	89.5	120.4
Road systems and regulation	424.1	469.1	589.2	697.6	781.5	834.4
Other transport services, n.e.c.	8.2	6.5	18.0	31.2	29.9	38.7
Other economic services(*c*)	27.2	30.7	50.8	61.7	64.9	57.7
Other purposes	–0.1	1.8	–0.3	0.1	0.5	0.8
Total	**2,033.1**	**2,295.2**	**3,334.4**	**3,911.0**	**4,207.9**	**4,747.7**

(*a*) Excludes financial enterprises. (*b*) Includes suburban rail transport systems. (*c*) Includes general administration, regulation and research.

STATE AUTHORITIES(*a*): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE 1977–78

($ million)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
General public services—							
Law, order and public safety	22.0	28.9	13.7	11.5	13.3	7.1	96.5
General administration, n.e.c.	32.1	20.3	38.6	9.7	7.3	6.3	114.2
Education	209.5	156.2	102.2	75.9	61.1	30.2	635.1
Health	90.0	70.6	56.1	39.5	45.2	20.0	321.3
Social security and welfare	3.6	1.4	3.1	1.4	1.4	0.1	11.0
Housing and community amenities—							
Housing	110.0	39.0	45.2	29.4	54.5	29.7	307.6
Community and regional development	26.0	1.5	–	6.9	4.0	0.2	38.5
Protection of the environment, and community amenities	165.3	118.4	0.3	25.5	41.0	–	350.4
Recreation and culture	5.9	20.7	4.0	9.8	5.3	2.7	48.4
Economic services—							
Agriculture, forestry, fishing	64.6	58.6	44.6	21.5	20.6	10.9	221.0
Mining, manufacturing and construction	21.2	24.8	8.9	4.2	2.3	0.2	61.6
Electricity and gas	165.7	306.8	167.0	52.7	84.1	51.8	828.2
Water supply	57.5	126.4	11.3	35.4	43.0	1.3	274.9
Rail transport(*b*)	188.8	102.0	76.2	4.3	15.3	0.4	387.1
Sea transport	44.3	20.8	26.8	10.4	12.9	5.2	120.4
Road systems and regulation	308.6	177.1	153.9	71.9	80.7	42.1	834.4
Other transport services, n.e.c.	2.5	14.2	–	16.3	4.4	1.3	38.7
Other economic services(*c*)	28.3	18.6	2.7	5.2	0.7	2.2	57.7
Other purposes	–0.3	0.1	–	–	1.1	–	0.8
Total	**1,545.5**	**1,306.3**	**754.7**	**431.4**	**498.0**	**211.9**	**4,747.7**

(*a*) Excludes financial enterprises. (*b*) Includes suburban rail transport systems. (*c*) Includes general administration, regulation and research.

Main components of receipts

The major source of funds available to State authorities is in the form of financial assistance by way of grants and advances from the Commonwealth Government. Taxation is also an important source of revenue, and central government borrowing by way of Commonwealth Government securities issued on behalf of the States, as well as borrowing by statutory bodies, accounted for a significant proportion of the total funds available.

Details of Commonwealth Government financial assistance to the States have already been given in the section dealing with Commonwealth Government authorities, and government borrowing activities are dealt with later in this chapter.

The following tables provide details of the taxes collected by State authorities classified by type of tax. Further information relating to State taxes may be found in *Taxation Revenue, Australia* (5506.0).

STATE AUTHORITIES: TAXATION BY TYPE OF TAX

($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Estate, gift, probate and succession duties	163.3	185.6	198.1	226.9	251.5	241.1
Property taxes—						
Land tax	112.9	122.1	168.6	200.1	218.1	236.6
Metropolitan improvement rates	9.6	12.2	12.8	15.1	15.8	16.2
Other	1.1	1.6	1.7	1.7	1.6	1.2
Total property	*123.6*	*135.9*	*183.1*	*216.9*	*235.5*	*254.0*
Liquor taxes	52.1	57.5	75.6	95.8	120.9	140.6
Taxes on gambling—						
Lotteries	37.7	48.5	67.9	85.9	109.6	129.2
Poker machines	42.6	50.8	71.9	83.4	92.0	98.2
Racing	89.9	105.8	136.2	162.3	180.7	194.3
Other	0.5	1.6	3.3	9.0	12.0	12.5
Total gambling	*170.7*	*206.7*	*279.4*	*340.6*	*394.3*	*434.1*
Taxes on ownership and operation of motor vehicles—						
Vehicle registration fees and taxes	223.6	240.2	284.1	334.3	397.0	461.3
Drivers', etc., licences and fees	27.8	29.2	43.1	54.3	59.8	60.4
Stamp duty on vehicle registration	30.9	39.7	51.5	84.2	116.5	126.0
Road transport taxes	17.6	17.2	15.2	15.6	15.9	14.5
Road maintenance contributions	40.1	43.3	44.4	44.4	44.7	44.5
Motor car third party insurance surcharge and duties	6.9	7.4	9.8	12.5	12.9	13.4
Total motor vehicles	*346.8*	*377.0*	*448.0*	*545.2*	*646.8*	*720.1*
Pay-roll tax	448.7	666.5	998.0	1,161.3	1,306.1	1,419.2
Fire brigades contributions from insurance companies, etc.	38.8	46.4	66.0	85.1	98.8	113.0
Stamp duties, n.e.i.	351.1	431.6	389.3	550.8	666.8	702.6
Fees from regulatory services, n.e.i.	18.3	20.9	26.3	37.8	44.1	48.4
Other taxes, fees, fines, etc.	67.8	78.6	128.7	209.5	208.5	227.6
Total taxation	**1,781.0**	**2,206.6**	**2,792.2**	**3,469.7**	**3,973.1**	**4,300.7**

STATE AUTHORITIES: TAXATION BY TYPE OF TAX, 1977-78

($ million)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
Estate, gift, probate and succession duties	96.5	89.1	16.9	18.7	14.8	5.2	241.1
Property taxes—							
Land tax	122.6	60.7	15.1	19.6	14.7	3.9	236.6
Metropolitan improvement rates	–	13.5	–	–	2.6	–	16.2
Other	–	–	–	1.0	0.1	–	1.2
Total property	*122.6*	*74.2*	*15.1*	*20.6*	*17.4*	*3.9*	*254.0*
Liquor taxes	54.6	34.1	24.4	10.9	12.9	3.8	140.6
Taxes on gambling—							
Lotteries	31.1	72.8	8.8	8.6	6.2	1.7	129.2
Poker machines	98.2	–	–	–	–	–	98.2
Racing	78.8	66.1	21.2	11.4	13.8	3.0	194.3
Other	6.4	1.8	1.9	–	–	2.3	12.5
Total gambling	*214.5*	*140.7*	*31.9*	*20.0*	*20.0*	*7.0*	*434.1*
Taxes on ownership and operation of motor vehicles—							
Vehicle registration fees and taxes	163.2	137.9	58.4	42.1	44.8	14.9	461.3
Drivers', etc., licences and fees	27.6	16.1	6.7	4.5	3.8	1.8	60.4
Stamp duty on vehicle registration	46.5	44.0	10.2	15.8	5.9	3.7	126.0
Road transport taxes	1.1	7.0	2.8	0.1	2.3	1.1	14.5
Road maintenance contributions	19.0	9.8	5.4	4.8	5.2	0.2	44.5
Motor car third party insurance surcharge and duties	–	7.8	–	1.9	3.3	0.5	13.4
Total motor vehicles	*257.4*	*222.6*	*83.5*	*69.2*	*65.3*	*22.2*	*720.1*
Pay-roll tax	567.9	400.2	175.8	120.6	119.3	35.3	1,419.2
Fire brigades contributions from insurance companies, etc.	31.6	34.4	23.1	8.3	12.2	3.4	113.0
Stamp duties, n.e.i.	236.5	236.4	99.8	60.8	55.1	14.0	702.6
Fees from regulatory services, n.e.i.	18.8	13.7	9.3	3.1	3.0	0.4	48.4
Other taxes, fees, fines, etc.	85.2	70.5	24.2	23.1	23.2	1.4	227.6
Total taxation	**1,685.6**	**1,315.9**	**504.1**	**355.3**	**343.2**	**96.6**	**4,300.7**

LOCAL AUTHORITIES

In each State of Australia there exists a system of local government whose powers and responsibilities are generally similar and cover such matters as the construction and maintenance of roads, streets and bridges; water, sewerage and drainage systems; health and sanitary services; the supervision of building; and the administration of regulations relating to items such as weights and measures, slaughtering, the registration of dogs, etc. In addition to these obligatory functions, there are also many which may be performed by a local authority either with or without the consent of the ratepayers or the Governor-in-Council. These include transport facilities, electricity, gas and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, swimming pools, libraries, museums, etc.

The system is based on the principle of a grant of specific powers by the State legislatures to the local authorities, their autonomy, however, being more or less limited by the provision for general supervision by a department of the central government or by the Governor-in-Council. Otherwise, within the scope of the Acts under which they are constituted or which they have to administer, they are responsible only to the ratepayers. While the broad pattern of local government throughout the States of Australia is similar, the range of activities, election of officers, methods of valuation and rating powers, etc. vary considerably from State to State, and even within States.

The areas over which local government bodies, numbering almost 900, exercise general control, are known in New South Wales as cities, municipalities and shires; in Victoria as cities, towns, boroughs and shires; in Queensland as cities, towns and shires; in South Australia as cities, corporate towns and district council areas; in Western Australia as cities, towns and shires; and in Tasmania as cities and municipalities. In New South Wales some local authorities in an area have combined to form county councils which provide services such as electricity and water supply. Within shires there are also some municipal units known as urban areas. Apart from the more sparsely populated parts of New South Wales, South Australia and the Northern Territory and, the Australian Capital Territory, practically the whole of Australia comes within local government jurisdiction. For further details *see* State Year Books.

Area, population, dwellings, and rates and penalties for ordinary services

The area, population, dwellings, and the amount of rates and penalties for ordinary services in the incorporated areas of each State are shown in the following table. Particulars of dwellings are in accordance with the definition used in the Census, and are compiled from information collected on the Census schedules. In the table, where the boundary of a capital city statistical division cuts across a local government area, the area of that capital city statistical division has been estimated. Particulars of population for capital city statistical divisions take account of those local government areas which overlap with capital city statistical division boundaries.

The item 'Rates and Penalties for Ordinary Services' relates to general and other special or local rates (excluding water and sewerage rates) levied or declared or, where the cash accounting system operates, the rates collected.

LOCAL GOVERNMENT AUTHORITIES: AREA, POPULATION, DWELLINGS, AND RATES AND PENALTIES FOR ORDINARY SERVICES—30 JUNE 1977

Location(a)	*No. of local authorities*	*Area*	*Population*	*Dwellings(b)*	*Rates and penalties—ordinary services*
		square kilometres	'000	'000	$'000
New South Wales—					
Sydney Statistical Division	45	12,406	3,122	1,063	(c)272,289
Other	164	693,254	1,784	589	(c)159,967
Total New South Wales	*209*	*705,660*	*4,906*	*1,652*	*(c)432,256*
Victoria—					
Melbourne Statistical Division	56	6,110	2,711	889	(d)209,198
Other	155	221,490	1,031	356	(d)79,415
Total Victoria	*211*	*227,600*	*3,742*	*1,245*	*(d)288,613*
Queensland—					
Brisbane Statistical Division	9	3,080	1,047	315	58,919
Other	123	1,723,920	1,089	351	76,992
Total Queensland	*132*	*1,727,000*	*2,136*	*666*	*135,911*
South Australia—					
Adelaide Statistical Division	31	1,842	933	(e)328	55,259
Other	99	146,476	315	(e)123	20,359
Total South Australia	*130*	*148,318*	*1,248*	*(e)451*	75,618
Western Australia—					
Perth Statistical Division	26	5,364	844	(e)283	47,598
Other	112	2,522,675	353	(e)109	22,366
Total Western Australia	*138*	*2,528,039*	*1,197*	*(e)392*	*69,964*
Tasmania—					
Hobart Statistical Division	7	(f)1,246	162	55	11,691
Other	42	67,085	241	84	19,334
Total Tasmania	*49*	*68,331*	*403*	*139*	*31,025*

(*a*) Unincorporated areas are excluded in all States. (*b*) Dwelling figures recorded at the 30 June 1976 Census. (*c*) Based on year ended 31 December 1976. (*d*) Based on year ended 30 September 1977. (*e*) Dwelling figures estimated for 30 June 1977. (*f*) Excludes those parts of New Norfolk and Sorell within the Hobart Statistical Division.

Receipts, financing items and outlay

The following tables show details of the receipts, financing items and outlay of all local authorities for the years 1973–74 to 1977–78, and of local authorities in each of the six States in 1977–78. Figures shown for 1977–78 are based on limited data and may be subject to significant revision as more complete accounting information is collected.

LOCAL AUTHORITIES: OUTLAY AND RECEIPTS

($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
			OUTLAY			
Final consumption expenditure—						
General public services	95.4	117.5	154.5	193.9	216.8	248.6
Education	2.0	2.9	4.6	7.4	8.5	10.5
Health	22.8	26.6	32.6	40.0	41.8	48.5
Social security and welfare	4.8	7.0	10.2	14.0	17.8	22.3
Housing and community amenities—						
Community and regional development	3.7	6.4	10.0	11.4	13.7	20.8
Protection of the environment	21.2	28.0	39.9	43.1	51.1	49.5
Other	4.0	5.1	7.4	10.1	10.8	12.3
Recreation and culture	71.4	77.7	115.0	159.4	168.3	193.0
Economic services	25.8	30.7	43.3	50.6	61.7	72.4
Other purposes	0.4	0.4	1.1	2.2	2.0	0.7
Total	*251.4*	*302.2*	*418.4*	*532.3*	*592.5*	*678.7*

LOCAL AUTHORITIES: OUTLAY AND RECEIPTS—*continued*

($ million)

OUTLAY

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Gross capital formation—						
Expenditure on new fixed assets—						
General public services	46.1	52.3	89.2	101.1	102.9	134.6
Education	0.3	0.7	1.9	3.2	4.6	2.8
Health	0.5	0.9	1.1	2.4	2.4	2.8
Social security and welfare	0.8	2.6	3.8	5.8	6.8	5.5
Housing and community amenities—						
Community and regional development	1.1	2.6	1.5	3.4	4.5	4.9
Protection of the environment	63.4	65.5	110.7	132.5	138.8	138.4
Other	1.3	2.5	4.3	8.0	9.0	7.9
Recreation and culture	32.1	36.0	55.0	85.9	78.6	85.9
Economic services—						
Mining, manufacturing and construction	2.5	2.3	4.7	10.8	8.6	7.2
Electricity and gas	79.2	75.7	94.5	112.7	131.2	122.2
Water supply	40.3	40.3	46.2	61.0	60.9	71.7
Road systems and regulation	318.3	358.6	479.4	586.7	590.3	672.9
Other transport services, n.e.c.	1.7	1.8	1.6	1.8	6.3	5.9
Other economic services(*a*)	1.9	1.7	3.4	5.4	6.8	6.4
Other purposes	–	–	–	–	–	–
Total	*589.5*	*643.3*	*897.2*	*1120.7*	*1151.7*	*1269.1*
Expenditure on existing assets and stocks (net)	3.5	9.7	37.2	36.5	21.5	19.8
Interest paid	116.8	128.2	145.1	177.3	214.8	250.6
Grants to State authorities	21.5	22.6	25.9	32.6	32.3	36.8
Net advances to the private sector	2.0	3.4	5.6	5.7	6.1	4.8
Total outlay	**984.6**	**1,109.3**	**1,529.4**	**1,904.9**	**2,018.8**	**2,259.6**
of which—						
Current outlay	368.2	430.4	563.6	709.5	807.3	929.2
Capital outlay	616.5	678.9	965.8	1,195.4	1,211.5	1,330.4

(*a*) Includes general administration, regulation and research.

RECEIPTS AND FINANCING ITEMS

Receipts—						
Taxes, fees, fines, etc.—						
Rates on land	485.8	559.3	705.2	883.4	1,032.9	1,127.4
Licences, etc.	20.1	25.6	26.7	33.4	40.4	44.4
Total	*505.9*	*584.9*	*732.0*	*916.8*	*1,073.3*	*1,171.8*
Income from public enterprises	103.1	102.5	96.7	132.6	177.3	168.1
Property income	15.7	24.9	42.3	41.8	54.9	76.5
Grants from State and Commonwealth authorities	175.8	155.8	324.9	445.1	408.0	489.7
Total receipts	*800.4*	*868.1*	*1,195.9*	*1,536.3*	*1,713.5*	*1.906.0*
Financing items—						
Net borrowing	157.1	144.8	214.5	287.3	331.6	318.7
Advances from State and Commonwealth authorities	6.2	6.0	17.9	18.6	16.0	13.3
Net receipts of private trust funds	12.3	5.8	–1.3	2.3	3.3	3.3
Reduction in cash and bank balances	–54.2	–6.8	37.1	–48.7	–163.4	–81.3
Reduction in security holdings—						
Investments of governmental funds and trading enterprises	–17.1	–10.5	–0.2	–9.1	–12.6	–56.5
Other funds available (including errors and omissions)—						
Depreciation allowances	32.5	34.6	41.5	46.7	52.8	58.4
Other	47.5	67.1	24.1	71.4	77.5	97.7
Total financing items	*184.2*	*241.2*	*333.6*	*368.7*	*305.3*	*353.6*
Total funds available	**984.6**	**1,109.3**	**1,529.4**	**1,904.9**	**2,018.8**	**2,259.6**

LOCAL AUTHORITIES: OUTLAY AND RECEIPTS, 1977-78

($ million)

OUTLAY

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
Final consumption expenditure—							
General public services	107.1	44.5	48.8	22.6	17.3	8.4	248.6
Education	0.4	10.0	–	0.1	0.1	–	10.5
Health	18.2	17.1	5.7	2.1	4.1	1.3	48.5
Social security and welfare	2.9	18.6	–	0.3	0.6	–	22.3
Housing and community amenities—							
Community and regional development	11.2	3.1	3.1	1.9	1.5	–	20.8
Protection of the environment	17.0	16.2	3.7	6.6	3.6	2.4	49.5
Other	3.5	2.1	4.3	1.3	1.6	–0.5	12.3
Recreation and culture	62.5	59.7	28.8	17.1	18.6	6.4	193.0
Economic services	18.0	35.3	11.2	4.4	3.4	0.1	72.4
Other purposes	0.7	–	–	–	–	–	0.7
Total	*241.3*	*206.5*	*105.5*	*56.4*	*50.7*	*18.2*	*678.7*
Gross capital formation—							
Expenditure on new fixed assets—							
General public services	30.4	63.4	20.6	11.1	7.0	2.2	134.6
Education	0.7	1.4	–	0.4	0.3	–	2.8
Health	0.5	1.5	–	–	0.7	–	2.8
Social security and welfare	2.8	0.4	0.5	0.8	1.0	–	5.5
Housing and community amenities—							
Community and regional development	4.3	–	0.5	–	0.1	–	4.9
Protection of the environment	40.9	12.6	61.9	8.1	8.3	6.5	138.4
Other	3.5	–	1.9	0.5	2.1	–	7.9
Recreation and culture	22.1	21.0	18.2	6.0	16.8	1.9	85.9
Economic services—							
Mining, manufacturing and construction	5.7	0.2	–	–	–	1.3	7.2
Electricity and gas	115.0	5.4	–	0.2	1.6	–	122.2
Water supply	33.5	1.1	34.6	–	–	2.6	71.7
Road systems and regulation	270.5	187.1	92.6	48.9	53.3	20.4	672.9
Other transport services, n.e.c.	0.2	–	5.7	–	–	–	5.9
Other economic services(*a*)	2.1	1.9	–	0.2	2.2	–	6.4
Other purposes	–	–	–	–	–	–	–
Total	*532.2*	*296.0*	*236.6*	*76.1*	*93.3*	*34.8*	*1,269.1*
Expenditure on existing assets and stocks (net)	22.4	11.6	–5.7	–0.2	–8.4	–	19.8
Interest paid	102.0	40.2	77.8	7.3	13.1	10.3	250.6
Grants to State authorities	15.5	8.1	5.1	3.9	2.0	2.2	36.8
Net advances to the private sector	4.8	–	–	–	–	–	4.8
Total outlay	**918.2**	**562.4**	**419.4**	**143.5**	**150.7**	**65.5**	**2,259.6**
of which—							
Current outlay	343.3	246.7	183.3	63.7	63.8	28.5	929.2
Capital outlay	574.9	315.8	236.1	79.8	86.9	37.0	1,330.4

(*a*) Includes general administration, regulation and research.

RECEIPTS AND FINANCING ITEMS

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
Receipts—							
Taxes, fees, fines, etc.—							
Rates on land	450.1	322.1	157.5	85.4	79.6	32.7	1,127.4
Licences, etc.	10.8	16.6	10.6	3.3	2.0	1.2	44.4
Total	*460.9*	*338.7*	*168.1*	*88.7*	*81.6*	*33.9*	*1,171.8*
Income from public enterprises	100.9	5.2	56.2	–	0.2	5.6	168.1
Property income	48.0	10.4	10.7	2.0	5.4	–	76.5
Grants from State and Commonwealth authorities	156.9	132.4	103.9	38.0	46.8	11.7	489.7
Total receipts	*766.6*	*486.7*	*338.9*	*128.7*	*134.0*	*51.1*	*1,906.0*
Financing items—							
Net borrowing	124.5	59.1	83.7	12.5	25.9	12.9	318.7
Advances from State and Commonwealth authorities	1.1	1.8	8.6	–0.1	–2.1	4.0	13.3
Net receipts of private trust funds	–	–	3.3	–	–	–	3.3
Reduction in cash and bank balances	–49.5	–0.7	–23.9	–2.2	–1.6	–3.4	–81.3
Reduction in security holdings—							
Investments of governmental funds and trading enterprises	–46.7	–10.0	–	–	–	0.2	–56.5
Other funds available (including errors and omissions)—							
Depreciation allowances	58.4	–	–	–	–	–	58.4
Other	63.7	25.4	8.7	4.6	–5.5	0.7	97.7
Total financing items	*151.5*	*75.7*	*80.5*	*14.9*	*16.7*	*14.4*	*353.6*
Total funds available	**918.2**	**562.4**	**419.4**	**143.5**	**150.7**	**65.5**	**2,259.6**

ALL PUBLIC AUTHORITIES

In the following tables the transactions of the Commonwealth Government, State and Local authorities have been brought together and consolidated to provide details of the receipts and outlay of the public authority sector as a whole.

Summary of receipts and outlay

The receipts and outlay of all public authorities for the six year period ended 1977-78 are set out in the following table.

ALL PUBLIC AUTHORITIES(*a*): RECEIPTS AND OUTLAY
($ million)

	1972-73	*1973-74*	*1974-75*	*1975-76*	*1976-77*	*1977-78*
OUTLAY						
Final consumption expenditure	5,458.8	6,680.7	9,215.6	11,511.9	13,472.1	15,249.3
Gross capital formation—						
Increase in stocks	-43.7	56.8	383.2	-35.5	-18.0	-58.7
Expenditure on new fixed assets	3,431.0	3,940.3	5,584.8	6,608.4	7,025.3	7,786.3
Expenditure on existing assets (net)	66.5	197.4	357.9	218.4	163.7	95.8
Total gross capital formation	*3,453.8*	*4,194.5*	*6,325.9*	*6,791.3*	*7,171.0*	*7,823.4*
Transfer payments—						
Interest	1,021.7	1,086.3	1,309.7	1,492.4	2,051.3	2,503.0
Transfers to persons	2,687.5	3,309.2	4,595.7	6,416.9	7,758.4	8,699.6
Subsidies	351.0	331.8	324.6	315.6	342.9	460.4
Transfers overseas	251.6	288.0	349.2	370.1	387.8	417.3
Grants for private capital purposes	79.3	100.2	176.6	239.9	165.1	193.5
Total transfer payments	*4,391.1*	*5,115.5*	*6,755.8*	*8,834.9*	*10,705.5*	*12,273.8*
Net advances—						
To the private sector	27.2	113.5	278.2	293.0	256.3	275.0
To public financial enterprises	66.5	81.5	268.0	63.6	90.8	98.5
To overseas	7.4	32.2	35.1	78.8	43.0	-2.3
Total net advances	*101.1*	*227.2*	*581.3*	*435.4*	*390.1*	*371.2*
Total outlay	**13,404.8**	**16,217.9**	**22,878.6**	**27,573.5**	**31,738.7**	**35,717.7**
of which—						
Current outlay	9,770.6	11,696.0	15,794.8	20,106.9	24,012.5	27,329.6
Capital outlay	3,634.2	4,521.9	7,083.8	7,466.6	7,726.2	8,388.1
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	10,757.6	13,708.4	17,735.6	21,324.3	24,852.1	26,973.6
Income from public enterprises	781.1	684.2	547.5	895.0	1,188.4	1,369.7
Interest, etc., received	349.1	430.3	555.4	603.9	800.0	981.3
Total receipts	*11,887.8*	*14,822.9*	*18,838.5*	*22,823.2*	*26,840.5*	*29,324.6*
Financing items—						
Net borrowing—						
Treasury notes	164.6	-37.8	1,689.1	-769.6	363.2	193.5
Commonwealth Government securities	665.5	801.2	554.1	3,165.5	2,097.5	2,979.2
Local authority and public corporation securities	466.1	505.0	652.4	869.0	1,446.9	1,545.6
Other general Government securities	60.1	62.9	74.8	112.2	129.8	115.5
Total net borrowing	*1,356.3*	*1,331.3*	*2,970.4*	*3,377.1*	*4,037.4*	*4,833.8*
Net receipts of private trust funds	221.4	18.4	234.9	252.3	307.5	386.8
Reduction in cash and bank balances	-548.9	-790.0	585.2	-528.5	-872.2	241.6
Reduction in security holdings	-180.3	-171.7	-560.2	570.3	38.5	-631.6
Other funds available (including errors and omissions)—						
Depreciation allowances	531.3	578.3	591.4	763.7	847.7	974.6
Other	137.1	428.5	218.6	315.3	539.0	587.9
Total financing items	*1,516.9*	*1,394.8*	*4,040.3*	*4,750.3*	*4,897.9*	*6,393.1*
Total funds available	**13,404.8**	**16,217.9**	**22,878.6**	**27,573.5**	**31,738.7**	**35,717.7**

(*a*) Excludes financial enterprises.

ALL PUBLIC AUTHORITIES
1977-78

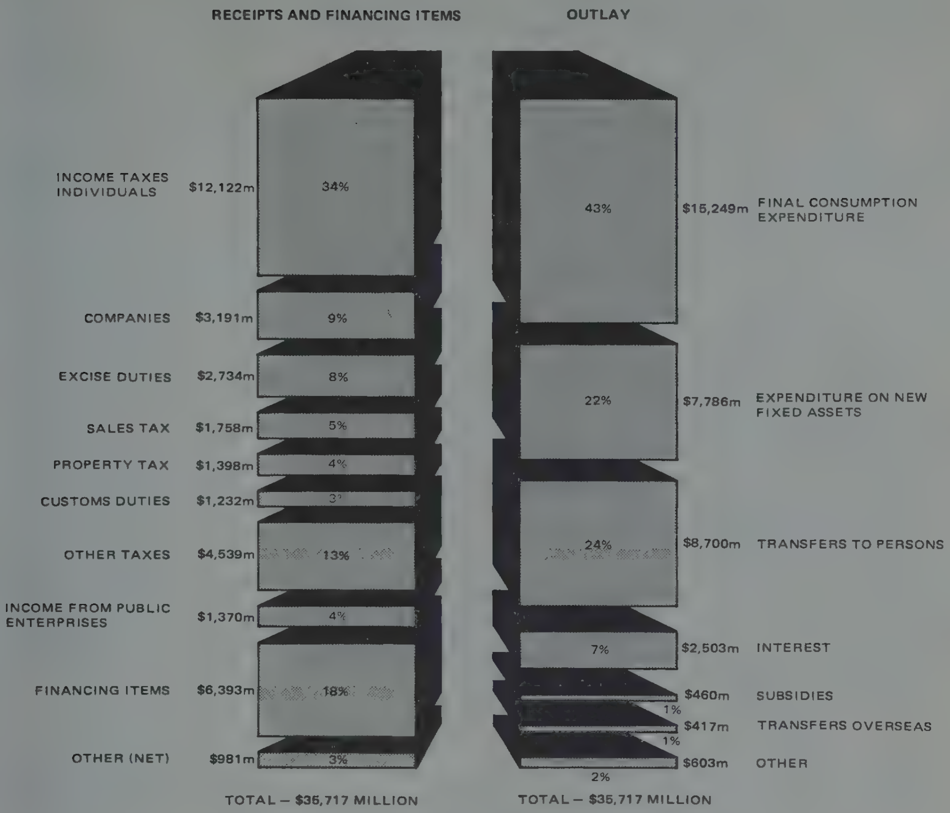


PLATE 45

Main components of outlay

The following tables show final consumption expenditure and expenditure on new fixed assets of all public authorities classified by purpose for the years 1972–73 to 1977–78.

ALL PUBLIC AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE
($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
General public services–						
General administration, n.e.c.	627.8	778.0	1,035.0	1,263.7	1,445.6	1,671.4
External affairs	50.0	58.3	83.8	91.7	98.1	105.8
Law, order and public safety	356.3	442.4	618.0	761.3	886.9	1,025.3
General research	77.7	94.8	118.2	135.9	160.0	177.5
Defence	1,178.4	1,222.5	1,444.2	1,679.9	1,998.6	2,183.1
Education	1,461.6	1,909.4	2,770.0	3,430.3	4,119.9	4,687.9
Health	761.3	1,028.9	1,544.8	2,294.3	2,720.0	3,042.7
Social security and welfare	134.7	167.5	250.8	322.1	356.2	419.7
Housing and community amenities–						
Housing	5.3	7.6	11.5	14.1	7.0	5.1
Community and regional development	21.4	34.9	55.4	69.8	71.5	80.6
Protection of the environment	27.1	38.0	57.1	67.8	76.9	77.5
Community amenities	3.9	5.0	7.0	9.2	10.3	11.4
Recreation and culture	205.1	254.8	354.0	441.4	477.5	540.3
Economic services–						
Agriculture, forestry, fishing	237.3	266.0	330.6	385.7	426.2	475.9
Mining, manufacturing and construction	40.7	47.5	61.2	69.5	79.4	92.3
Electricity, gas and water supply	1.7	1.0	4.5	7.7	6.0	8.0
Transport and communication	91.5	111.3	132.3	143.9	155.3	168.7
Other economic services(*a*)	176.1	210.7	291.4	314.9	372.8	473.6
Other purposes	0.9	2.0	45.7	8.5	3.7	2.6
Total	**5,458.8**	**6,680.7**	**9,215.6**	**11,511.9**	**13,472.1**	**15,249.3**

(*a*) Includes general administration, regulation and research.

ALL PUBLIC AUTHORITIES(a): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE
($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
General public services—						
General administration	111.7	134.4	207.3	245.4	250.1	297.0
External affairs	15.4	12.3	15.9	20.3	25.5	24.4
Law, order and public safety	37.6	42.7	55.1	74.7	88.3	112.6
General research	9.4	15.1	20.6	32.1	23.6	18.0
Education	328.0	381.8	656.3	695.1	641.6	692.1
Health	117.5	146.7	244.2	380.1	388.0	377.5
Social security and welfare	9.3	21.4	20.9	27.5	27.5	23.1
Housing and community amenities—						
Housing	85.9	126.3	309.0	347.8	337.6	341.7
Community and regional development	28.4	39.4	63.4	95.9	96.6	87.5
Protection of the environment	273.9	312.7	429.2	494.6	512.9	505.2
Community amenities	0.5	0.5	1.3	3.6	3.3	5.3
Recreation and culture	75.7	78.4	104.9	143.3	142.7	160.2
Economic services—						
Agriculture, forestry and fishing	119.2	118.5	160.0	186.1	214.6	237.2
Mining, manufacturing and construction	34.2	47.4	71.2	86.1	78.6	75.4
Electricity and gas	421.0	439.6	553.9	672.8	805.3	979.2
Water supply	185.1	198.1	248.8	309.8	347.1	369.6
Rail transport(*b*)	150.5	147.0	231.4	322.4	348.8	427.3
Sea transport	85.1	74.9	133.1	133.2	228.1	260.5
Road systems and regulation	766.3	854.0	1,097.4	1,318.5	1,404.0	1,562.8
Air transport	60.2	85.8	97.2	88.2	53.5	162.7
Pipelines	12.1	56.3	58.4	57.4	22.2	8.6
Other transport services, n.e.c.	9.6	10.1	21.0	33.4	33.8	45.3
Communications	460.3	559.1	717.9	756.6	855.4	913.6
Other economic services(*c*)	34.3	36.1	60.5	78.1	95.9	98.5
Other purposes	–0.1	1.8	6.2	5.2	0.5	0.8
Total	**3,431.0**	**3,940.3**	**5,584.8**	**6,608.4**	**7,025.3**	**7,786.3**

(*a*) Excludes financial enterprises. (*b*) Includes suburban rail transport system. (*c*) Includes general administration, regulation and research.

Main components of receipts

Taxes and net borrowing constitute the main sources of financing of the activities of the public authorities. Details of the debt of public authorities are given in the next section of this chapter. Taxation, by type of tax, for the years 1972–73 to 1977–78 was as follows.

ALL PUBLIC AUTHORITIES: TAXATION, BY TYPE OF TAX
($ million)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
Income tax—						
Individuals	4,084	5,485	7,709	9,213	11,047	12,122
Companies(*a*)	1,617	2,013	2,432	2,600	2,899	3,191
Estate, gift, probate and succession duties	237	261	278	314	339	344
Customs duties	513	604	840	1,044	1,273	1,232
Excise duties	1,268	1,555	1,729	2,331	2,485	2,734
Sales tax	765	969	1,154	1,408	1,650	1,758
Primary production taxes	35	64	143	115	189	179
Payroll tax	455	675	1,014	1,179	1,326	1,439
Property taxes	618	703	898	1,114	1,283	1,398
Liquor taxes	53	59	77	98	123	143
Taxes on gambling	171	207	281	344	395	434
Taxes on ownership and operation of motor vehicles	349	380	452	550	653	729
Stamp duties, n.e.i.	355	436	393	555	672	708
Other taxes, fees, fines, etc.	238	297	336	458	519	564
Total	**10,758**	**13,708**	**17,736**	**21,324**	**24,852**	**26,974**

(*a*) Includes dividend and interest (withholding) taxes. Excludes income taxes paid by Commonwealth Government public enterprises.

Level of government

In the following tables details are given for 1977–78 of the receipts and outlay of all public authorities, broken down by level of government in order to show their relative contributions to various expenditure programs, and their roles in financing these programs through taxes and transfers.

ALL PUBLIC AUTHORITIES(*a*): RECEIPTS AND OUTLAY BY LEVEL OF GOVERNMENT, 1977–78
($ million)

	Commonwealth authorities	*State authorities*	*Local authorities*	*All public authorities*
		OUTLAY		
Expenditure on goods and services—				
General public services—				
General administration, n.e.c.	893.9	697.1	377.4	1,968.4
External affairs	130.2	–	–	130.2
Law, order and public safety	152.4	979.7	5.8	1,137.9
General research	188.1	7.4	–	195.5
Defence	2,183.1	–	–	2,183.1
Education	318.7	5,048.0	13.3	5,380.0
Health	557.6	2,811.2	51.3	3,420.1
Social security and welfare	261.7	153.3	27.7	442.7
Housing and community amenities—				
Housing	29.0	313.4	4.4	346.8
Community and regional development	76.7	65.7	25.7	168.1
Protection of the environment	19.7	375.1	187.9	582.7
Community amenities	0.4	0.4	15.8	16.6
Recreation and culture	252.2	169.5	278.9	700.6
Economic services—				
Agriculture, forestry and fishing	150.6	557.8	4.6	713.0
Mining, manufacturing and construction	35.2	115.2	17.3	167.7
Electricity, gas and water supply	52.3	1,110.8	193.9	1,357.0
Transport and communication	1,417.6	1,411.1	720.7	3,549.4
Other economic services	340.6	209.3	22.4	572.3
Other purposes	–	2.8	0.7	3.5
Total expenditure on goods and services	**7,060.0**	**14,027.9**	**1,947.8**	**23,035.7**
of which—				
Final consumption expenditure	5,290.5	9,280.2	678.7	15,249.4
Expenditure on new fixed assets	1,769.5	4,747.7	1,269.1	7,786.3
Increase in stocks	–119.0	49.9	10.4	–58.7
Expenditure on existing assets (net)	–16.1	102.6	9.3	95.8
Transfer payments—				
Interest	558.9	1,693.6	250.6	2,503.0
Transfers to persons	8,420.5	279.1	–	8,699.6
Subsidies	380.3	80.1	–	460.4
Transfers overseas	417.2	0.1	–	417.3
Grants for private capital purposes	130.1	63.4	–	193.5
Grants to the States—for current purposes	7,215.0	–	–	(*b*)
—for capital purposes	1,509.2	–	–	(*b*)
Grants to local authorities	14.2	475.5	–	(*b*)
Grants from local authorities	–	–	36.8	(*b*)
Total transfer payments	*18,645.4*	*2,591.8*	*287.4*	*12,273.8*
Net advances to—				
The private sector	64.1	206.2	4.8	275.0
Public financial enterprises	–10.5	109.0	–	98.5
The States	1,260.9	–	–	(*b*)
Local authorities	–	13.3	–	(*b*)
Overseas	–2.3	–	–	–2.3
Total net advances	*1,312.3*	*328.4*	*4.8*	*371.3*
Total outlay	**26,882.6**	**17,100.6**	**2,259.6**	**35,717.7**
of which—				
Current outlay	22,289.2	11,808.6	929.2	27,329.6
Capital outlay	4,593.4	5,292.0	1,330.4	8,388.1

(*a*) Excludes financial enterprises. (*b*) In consolidated figures for all public authorities, inter-authority grants and advances are not shown.

ALL PUBLIC AUTHORITIES(*a*): RECEIPTS AND OUTLAY BY LEVEL OF GOVERNMENT, 1977–78—continued

($ million)

	Commonwealth authorities	*State authorities*	*Local authorities*	*All public authorities*
RECEIPTS AND FINANCING ITEMS				
Receipts—				
Taxes, fees, fines, etc.—				
Income tax—				
Individuals	12,122.2	–	–	12,122.2
Companies(*b*)	3,190.7	–	–	3,190.7
Estate, gift, probate and succession duties	102.4	241.1	–	343.5
Customs duties	1,232.0	–	–	1,232.0
Excise duties	2,733.5	–	–	2,733.5
Sales tax	1,757.7	–	–	1,757.7
Payroll tax	19.6	1,419.2	–	1,438.8
Primary production taxes and charges	179.4	–	–	179.4
Property taxes	17.0	254.0	1,127.4	1,398.4
Liquor taxes	2.5	140.6	–	143.1
Taxes on gambling	0.1	434.1	–	434.2
Taxes on ownership and operation of motor vehicles	8.3	720.1	0.1	728.5
Stamp duties, n.e.i.	5.4	702.6	–	708.0
Fees from regulatory services	22.4	48.4	30.8	101.6
Other taxes, fees, fines, etc.	108.0	340.8	13.5	462.3
Total taxes, etc.	*21,501.2*	*4,300.7*	*1,171.8*	*26,973.6*
Income from public enterprises	818.7	383.0	168.1	1,369.8
Interest, etc., received	200.3	704.5	76.5	981.3
Grants from the Commonwealth Government—				
For current purposes	–	7,215.3	–	(*c*)
For capital purposes	–	1,508.9	–	(*c*)
Direct grants from Commonwealth Government to local authorities	–	–	14.2	(*c*)
Grants from State authorities	–	–	475.5	(*c*)
Grants from local authorities	–	36.8	–	(*c*)
Total receipts	**22,520.2**	**14,149.1**	**1,906.0**	**29,324.7**
Financing items—				
Net borrowing—				
Treasury bills and notes	193.5	–	–	193.5
Commonwealth government securities	2,979.2	–	–	2,979.2
Local authorities and public corporation securities	342.0	882.6	318.7	1,543.3
Other general government securities	–	117.8	–	117.8
Total net borrowing	*3,514.6*	*1,000.4*	*318.7*	*4,833.7*
Advances from the Commonwealth Government—				
For loan works purposes	–	784.8	–	(*c*)
Other	–	476.3	–	(*c*)
Advances from State authorities	–	–	13.3	(*c*)
Net receipts of private trust funds	151.5	232.0	3.3	386.8
Reduction in cash and bank balances	209.5	113.4	-81.3	241.6
Reduction in security holdings	-234.4	-340.7	-56.5	-631.6
Other funds available (including errors and omissions)—				
Depreciation allowances	494.2	422.0	58.4	974.6
Other	227.0	263.2	97.7	587.9
Total financing items	**4,362.4**	**2,951.4**	**353.6**	**6,393.0**
Total funds available	**26,882.6**	**17,100.6**	**2,259.6**	**35,717.7**

(*a*) Excludes financial enterprises. (*b*) Includes dividend and interest (withholding) taxes. Excludes income taxes paid by Commonwealth Government public enterprises. (*c*) In consolidated figures for all public authorities, inter-authority grants and advances are not shown.

PUBLIC SECTOR BORROWING

Figures given in this section do not purport to show either 'public debt' or 'net public debt', but are designed to provide details of securities issued on behalf of the Commonwealth Government and the States, together with some details of the amounts borrowed by State and local authorities with independent borrowing powers.

For a number of reasons, this information cannot be aggregated, without adjustment, to provide a measure of the 'debt' of public authorities. There are forms of debt not evidenced by the issue of securities, such as Commonwealth Government advances to the States for specific capital purposes. Governments themselves maintain significant holdings of their own securities; for example, the Commonwealth Government, in the National Debt Sinking Fund, the Loan Consolidation and Investment Reserve, and in other Trust Funds, holds large investments in securities issued either directly by itself or on behalf of the States. Some of the securities issued on behalf of the States and held by the Commonwealth Government represent the proceeds of overseas loans, securities for which were issued directly by the Commonwealth Government, the Australian currency counterpart proceeds of the loans being invested in special loans to finance State works programs. A number of State public corporations and local authorities also maintain significant investments in government securities (including their own securities). Aggregation of the figures for securities on issue which follow would clearly involve a substantial degree of duplication; the sum of securities on issue therefore cannot be regarded as representing 'net public debt'.

Commonwealth Government and States: Government securities on issue

Under the 1927 Financial Agreement between the Commonwealth Government and the States, the Commonwealth Government accepted responsibility for the securities of State governments then on issue and was empowered to arrange for all future borrowings on behalf of the Commonwealth and the States and to issue Commonwealth Government securities for all moneys borrowed.

A National Debt Sinking Fund, which is administered by the National Debt Commission, was established by the *National Debt Sinking Fund Act* 1923 for the redemption of securities issued on behalf of the Commonwealth Government. Under the terms of the Financial Agreement, the sinking funds existing in respect of the States' debts were also placed under the control of the Commission. The Commonwealth Government is reimbursed by the States for interest, exchange, etc. paid on their behalf, and the securities are redeemed from the Fund to which both the Commonwealth and the State governments make pre-determined contributions. The amounts to be contributed were varied when the *National Debt Sinking Fund Act* 1966 repealed all previous legislation on sinking funds relating to securities on issue on behalf of the Commonwealth Government, and again in 1976 when the Act was amended to reflect the amendments to the Financial Agreement. In 1976 the Commonwealth assumed the responsibility for over $1,000 million of States' debt existing as at 30 June 1975. As a consequence, the separate States' Sinking Funds were absorbed into the National Debt Sinking Fund, with separate accounts being maintained for the Commonwealth and each State.

For further information relating to the recent operations of the National Debt Sinking Fund reference should be made to the fifty-fifth annual report of the National Debt Commission. Particulars of the creation and operation of sinking funds by the *National Debt Sinking Fund Act* 1923 are included in issues of the Year Book prior to No. 23, and a general description of the provisions applying between 1966 and 1976 is given in issue No. 61.

In the tables which follow, details are given of transactions in Commonwealth Government securities issued on account of the Commonwealth Government and the States. Amounts relating to overseas loans are shown in Australian currency equivalent calculated on the basis of the rates of exchange ruling at 30 June in each year shown. All amounts shown are at face value.

For figures which permit accurate analysis of the structure and movement of securities issued on behalf of the Commonwealth and States, refer to the Commonwealth Budget Paper No. 6, *Government Securities on Issue.*

Net movement in securities on issue

Summary details of the net movement in securities issued for Commonwealth Government purposes and on account of the States during the period 1973–74 to 1978–79, are given in the following group of tables.

NET MOVEMENT IN GOVERNMENT SECURITIES ON ISSUE

($ million)

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
NEW SECURITIES ISSUED						
Securities repayable in Australian currency—						
Treasury bonds	1,416.4	1,054.9	2,176.6	1,581.0	965.7	1,018.5
Australian savings bonds	–	–	1,202.3	736.3	719.6	531.2
Special bonds	454.2	343.0	160.1	–	–	–
Income equalization deposits	–	–	–	–	–	33.1
Drought bonds	3.2	1.5	0.2	0.2	–	–
Advance loan subscriptions	(*c*)-8.0	(*c*)-14.3	22.6	(*c*)-21.7	(*c*)0.4	(*c*)-4.6
Overdue securities	–	–	–	–	–	–
Tax-free stock	–	–	–	–	–	–
Debentures	–	–	–	–	–	–
Stock issued to Government Savings banks under special agreements(*a*)	48.5	21.1	5.9	35.4	57.9	35.8
Treasury notes	(*c*)-37.8	(*c*)1,689.1	2,667.1	4,105.7	1,766.7	4,245.1
Treasury bills—						
Internal	(*c*)-94.7	(*c*)79.4	(*c*)157.0	(*c*)323.8	(*c*)365.2	(*c*)-187.7
Public	–	–	(*c*)850.0	(*c*)450.0	(*c*)200.0	(*c*)500.0
Total	*1,781.9*	*3,174.8*	*7,241.9*	*7,210.8*	*4,075.5*	*6,171.3*
Securities repayable in overseas currencies(*b*)	16.1	235.1	268.1	424.2	1,738.3	1,453.8
Total new securities issued	**1,797.9**	**3,409.9**	**7,510.0**	**7,634.9**	**5,813.9**	**7,625.1**
REDEMPTIONS, REPURCHASES, CANCELLATIONS(*d*)						
Securities repayable in Australian currency—						
Treasury bonds	615.0	478.2	286.7	243.0	114.6	222.6
Australian savings bonds	–	–	13.1	176.7	174.8	164.4
Special bonds	363.6	374.8	216.9	180.3	133.3	72.7
Income equalization deposits	–	–	–	–	–	20.4
Drought bonds	0.3	0.9	0.9	2.8	0.6	0.2
Advance loan subscriptions	–	–	–	–	–	–
Overdue securities	-0.5	0.2	0.6	-2.2	0.8	1.8
Tax-free stock	0.1	0.1	0.2	–	0.1	0.3
Debentures	3.1	3.2	3.4	3.5	3.7	3.8
Stock issued to Government Savings banks under special agreements(*a*)	4.8	4.4	8.1	7.2	6.6	9.6
Treasury notes	–	–	4,286.7	4,192.5	1,773.3	3,198.3
Treasury bills—						
Internal	–	–	–	–	–	–
Public	–	–	–	–	–	–
Total	*986.4*	*861.8*	*4,816.6*	*4,803.8*	*2,207.8*	*3,694.2*
Securities repayable in overseas currencies(*b*)	249.1	84.4	125.6	-121.1	-26.3	-165.7
Total redemptions, etc.	**1,235.5**	**946.2**	**4,942.2**	**4,682.8**	**2,181.4**	**3,528.5**
NET MOVEMENT						
Securities repayable in Australian currency—						
Treasury bonds	801.4	576.7	1,889.9	1,338.1	851.1	795.9
Australian savings bonds	–	–	1,189.2	559.6	544.8	366.8
Special bonds	90.6	-31.7	-56.7	-180.3	-133.3	-72.7
Income equalization deposit	–	–	–	–	–	12.7
Drought bonds	2.9	0.6	-0.7	-2.6	-0.6	-0.2
Advance loan subscriptions	-8.0	-14.3	22.6	-21.7	0.4	-4.6
Overdue securities	0.5	-0.2	-0.6	2.2	-0.8	-1.8
Tax-free stock	-0.1	–	-0.2	–	-0.1	-0.3
Debentures	-3.1	-3.2	-3.4	-3.5	-3.7	-3.8
Stock issued to Government Savings banks under special agreements(*a*)	43.7	16.7	-2.2	28.2	51.3	26.2
Treasury notes	-37.8	1,689.1	-1,619.6	-86.8	-6.5	1,046.8
Treasury bills—						
Internal	-94.7	79.4	157.0	323.8	365.2	-187.7
Public	–	–	850.0	450.0	200.0	500.0
Total	*795.5*	*2,313.0*	*2,425.4*	*2,406.9*	*1,867.8*	*2,477.2*
Securities repayable in overseas currencies(*b*)	-233.1	150.7	142.6	545.2	1,764.7	1,619.5
Net movement in securities on issue	**562.4**	**2,463.7**	**2,568.0**	**2,952.1**	**3,632.4**	**4,096.7**

(*a*) Recorded in Commonwealth Government Loan Fund as State domestic raisings. (*b*) Australian currency equivalent at rates of exchange ruling at 30 June in each of the years shown. (*c*) Net issue. (*d*) Includes conversions from one type of security to another, which affect the net movements of individual loan categories, but do not affect the overall net movement.

NOTE: For securities repayable in overseas currencies the amounts shown also include an element due to exchange rate variations in Securities on Issue.

Government securities on issue.

The following table provides details of government securities on issue on account of the Commonwealth Government and the States, repayable in Australian and in overseas currencies.

GOVERNMENT SECURITIES ON ISSUE: COMMONWEALTH GOVERNMENT AND STATES

($ million)

	30 June–					
	1974	*1975*	*1976*	*1977*	*1978*	*1979*
For Commonwealth Government purposes–						
Repayable in Australian currency–						
Treasury bonds	1,686.5	1,613.1	3,947.5	4,494.7	4,949.3	5,269.8
Australian savings bonds	–	–	1,178.4	1,637.3	1,669.3	1,700.5
Special bonds	249.9	246.5	196.1	145.5	110.3	93.8
Income equilization deposit	–	–	–	–	–	79.4
Drought bonds	4.0	4.6	3.9	1.3	0.8	0.5
Advance loan subscriptions	17.6	3.3	25.9	4.2	4.6	–
Overdue securities	4.5	4.2	3.7	4.6	5.3	3.5
Treasury notes	386.9	2,076.0	456.5	369.6	363.1	1,409.9
Treasury bills–						
Internal	930.8	1,010.2	1,167.2	1,491.0	1,856.2	1,668.5
Public	–	–	850.0	1,300.0	1,500.0	2,000.0
Total	*3,280.2*	*4,957.9*	*7,829.2*	*9,448.4*	*10,458.9*	*12,225.9*
Repayable in overseas currencies(*a*)	807.3	998.2	1,181.1	1,743.4	3,533.1	5,178.9
Total Commonwealth Government	*4,087.5*	*5,956.2*	*9,010.3*	*11,191.8*	*13,991.9*	*17,404.8*
On account of States–						
Repayable in Australian currency–						
Treasury bonds	9,792.3	10,442.4	9,997.9	10,788.7	11,185.3	11,660.6
Australian savings bonds	–	–	10.8	111.5	624.3	959.8
Special bonds	747.4	719.1	712.7	583.0	484.9	428.7
Tax-free stock	15.3	15.3	15.1	15.1	15.0	14.8
Stock issued to Government Savings banks under special agreements	405.4	422.0	419.8	448.0	499.3	525.5
Debentures	33.5	30.3	27.0	23.4	19.8	15.9
Overdue securities	0.2	0.4	0.3	1.6	0.1	0.1
Total	*10,994.2*	*11,629.5*	*11,183.6*	*11,971.4*	*12,828.6*	13,605.4
Repayable in overseas currencies(*a*)	224.5	184.2	143.9	127.2	102.2	75.9
Total States	*11,218.7*	*11,813.8*	*11,327.6*	*12,098.5*	*12,930.8*	13,681.3
of which–						
New South Wales	3,654.4	3,834.1	3,721.0	3,959.1	4,222.6	4,466.3
Victoria	2,746.6	2,896.2	2,834.0	3,031.8	3,244.3	3,427.6
Queensland	1,486.0	1,576.7	1,538.7	1,644.0	1,753.9	1,856.0
South Australia	1,473.3	1,551.3	1,389.5	1,491.9	1,602.7	1,701.5
Western Australia	1,070.9	1,121.6	1,090.5	1,160.8	1,237.3	1,307.3
Tasmania	787.6	833.9	753.8	811.0	870.0	922.6
Total Commonwealth Government and States	**15,306.2**	**17,769.9**	**20,337.9**	**23,290.3**	**26,922.7**	**31,086.0**

(*a*) Australian currency equivalent.

State and local authorities' borrowings

The borrowings of Commonwealth, State and local authorities come within the purview of the Loan Council under a 'gentlemen's agreement' originating in 1936. The Loan Council determines maximum interest rates and other terms and conditions of loans raised by authorities and approves the aggregate annual borrowing program for authorities borrowing more than $1,000,000 (in 1976–77 this limit was $800,000) in the financial year. The total program approved is distributed by the Council between the States, and each State determines the distribution between individual authorities of its share of the overall borrowing program approved for such authorities. Authorities which individually borrow less than $1,000,000 (1976–77, $800,000) in the financial year are also subject to the terms and conditions applying under the 'gentlemen's agreement', and it is the responsibility of the States to ensure that these authorities conform with these terms and conditions. No aggregate annual limit on their borrowings is imposed by the Loan Council.

The following table shows the aggregate borrowings by the State and local authorities in each of the years 1973–74 to 1978–79. It will be seen that the amounts borrowed by local authorities vary between the States, reflecting a number of factors including, importantly, variations between the States in the range of services provided by local government authorities. For example, the high figures for Queensland reflect, in part, borrowings by the Brisbane City Council which carries out a number of functions (e.g. metropolitan bus services and sewerage services) which in other States are undertaken by State authorities.

For further information relating to the figures given in the table, reference should be made to the Commonwealth Budget Paper No. 7, *Payments to or for the States, the Northern Territory and Local Government Authorities.*

NEW MONEY BORROWINGS BY STATE AND LOCAL AUTHORITIES
($'000)

	New South Wales	*Victoria*	*Queensland*	*South Australia*	*Western Australia*	*Tasmania*	*Total*
			STATE AUTHORITIES(*a*)				
1973–74	142,357	177,510	61,254	25,492	37,883	10,113	454,609
1974–75	164,885	207,532	75,545	29,968	41,969	13,646	533,545
1975–76	205,312	256,930	102,411	39,490	44,309	17,720	666,172
1976–77	253,883	326,717	127,517	50,100	54,019	21,432	833,668
1977–78	332,215	388,620	198,721	73,220	78,689	30,771	1,102,236
1978–79	371,800	412,756	194,726	83,953	111,081	34,139	1,208,455
			LOCAL AUTHORITIES(*b*)				
1973–74	104,540	40,974	77,472	10,819	20,820	8,591	263,216
1974–75	132,803	50,188	102,804	13,617	21,839	10,710	331,962
1975–76	163,847	63,043	102,097	16,831	27,845	14,503	388,166
1976–77	191,932	65,893	116,118	21,674	32,380	17,053	445,050
1977–78	202,230	84,493	117,993	19,424	36,481	17,405	478,026
1978–79	215,641	81,795	126,709	24,621	39,286	17,841	505,893

(*a*) New money borrowings by State-type authorities in the Northern Territory in 1978–79 were $7,115,000. (*b*) New money borrowings by local authorities in the Northern Territory are not included in the table. These borrowings are as follows: 1973–74, $515,000; 1974–75, $516,000; 1975–76, $597,000; 1976–77, $1,194,000; 1977–78, $1,697,000; 1978–79, $631,000.

Further references

For further detailed information on the subjects covered by this chapter *see* the annual bulletins published by the ABS: *Australian National Accounts—National Income and Expenditure* (5204.0); *Commonwealth Government Finance* (5502.0); *State and Local Government Finance, Australia* (5504.0); *Taxation Revenue, Australia* (5506.0) and *Government Financial Estimates, Australia* (5501.0). Current information in summarised form is given in *Quarterly Estimates of National Income and Expenditure* (5206.0), and is also contained in the *Monthly Summary of Statistics, Australia* (1304.0), and the *Monthly Digest of Current Economic Statistics, Australia* (1305.0).

Additional details of the transactions of public authorities engaged in particular fields of activity, such as defence, transport and communication, health and welfare, education, etc., may be found in other chapters of this Year Book.

CHAPTER 23

NATIONAL ACCOUNTS

5
FIVE DOLLARS
10
TEN DOLLARS
1
20
2
TWO DOLLARS
AUS

CHAPTER 23

NATIONAL ACCOUNTS

National accounting aims at providing a systematic summary of the transactions taking place in the economy, especially of those that relate to the production and use of goods and services, and to transfers of income or capital between sectors of the economy.

Estimates of national income and expenditure have been compiled by the Bureau since 1944–45 and have been published annually as papers entitled *National Income and Expenditure* accompanying the Commonwealth Budgets.

NATIONAL INCOME AND EXPENDITURE

Description of National Income and Expenditure Accounts

A brief description of the conceptual basis of national accounts is given in this section, but for a more detailed treatment of the concepts and structure of the Australian national accounts reference should be made to *Australian National Accounts, National Income and Expenditure,* 1976–77 (5204.0).

Definition and relationship of the concepts of product, income and expenditure

The main concepts of product, income and expenditure in the Australian National Accounts are defined and expressed in equivalents as follows:

Gross domestic product is the total market value of goods and services produced in Australia within a given period after deduction of the cost of goods and services used up in the process of production but before deducting allowances for the consumption of fixed capital. Thus, gross domestic product, as here defined, is 'at market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services. *Gross farm product* is that part of gross domestic product which derives from production in agriculture and services to agriculture. *Gross non-farm product* arises from production in all other industries.

Gross domestic product at factor cost is that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour, land, capital and enterprise). It represents the value added by these factors in the process of production and is equivalent to gross domestic product less indirect taxes plus subsidies.

Domestic factor incomes is that part of the value added within a given period by factors of production (labour, land, capital and enterprise) which accrues as income to their suppliers after allowing for the depreciation of fixed capital. It is equivalent to gross domestic product at factor cost less depreciation allowances.

National income is the net income accruing within a given period to Australian residents from their services in supplying factors of production (labour, land, capital and enterprise) in Australia or overseas plus indirect taxes less subsidies. It is equivalent to domestic factor incomes plus indirect taxes less subsidies and net income paid overseas.

National disposable income is the net income accruing within a given period to Australian residents from their services in supplying factors of production, from net indirect taxes and from redistributive transfers. It is equivalent to national income less net transfers overseas plus net withholding taxes received from overseas.

Gross national expenditure is the total expenditure within a given period on final goods and services (i.e. excluding goods and services used up during the period in the process of production) bought by Australian residents. It is equivalent to the gross domestic product plus imports of goods and services less exports of goods and services.

Household income is the total income, whether in cash or kind, received by persons normally resident in Australia in return for productive activity (such as wages, salaries and supplements, incomes of unincorporated enterprises, etc.) and transfer incomes (such as cash social service benefits, interest, etc.). It includes the imputed interest of life offices and superannuation funds, which is the benefit accruing to policy holders and members from investment income of the funds. It also includes third party motor vehicle and public risk insurance claims paid to persons in respect of policies taken out by enterprises. However, it excludes any income which might be said to accrue to persons in the form of undistributed company income. It also includes any property income received by non-profit organisations such as private schools, churches, charitable organisations, etc.

Framework of accounts and sectors

In the Australian national accounts, four internal sectors are distinguished: corporate trading enterprises (including public trading enterprises), financial enterprises (including the nominal industry), households (including their unincorporated enterprises) and general government. All of these internal sectors engage in productive activity, receive and disburse income and accumulate assets. In this publication no accounts are shown for individual internal sectors. The transactions of the internal sectors are summarised in three accounts: a domestic production account (Table 1, page 646), a national income and outlay account (Table 3, page 647) and a national capital account (Table 4, page 647). In addition, there is an overseas sector having an account (Table 6, page 648) which shows a summary of the transactions into which overseas governments, persons and businesses enter with Australian residents.

The framework of sectors and accounts underlying the Australian national accounts is set out in the following diagram. The heavy rectangles depict the minimum system of four accounts which represent the consolidated accounts of the nation. The light rectangles represent the accounts for institutional sectors. The subdivision of the domestic production account represents production accounts for establishments classified according to industry. Selected transactions from such production accounts are shown in *Australian National Accounts, National Income and Expenditure* (5204.0). Such production accounts can be developed in detail to produce input-output tables.

ARTICULATION OF AUSTRALIAN NATIONAL ACCOUNTS

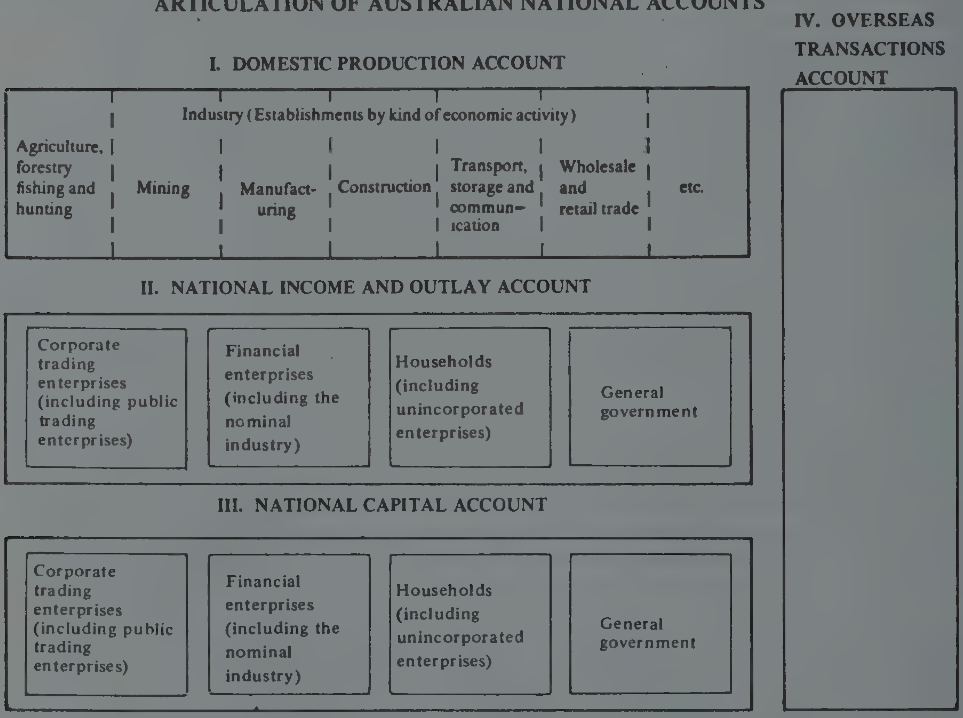

I. DOMESTIC PRODUCTION ACCOUNT
Industry (Establishments by kind of economic activity)
Agriculture, forestry fishing and hunting
Mining
Manufacturing
Construction
Transport, storage and communication
Wholesale and retail trade
etc.
II. NATIONAL INCOME AND OUTLAY ACCOUNT
Corporate trading enterprises (including public trading enterprises)
Financial enterprises (including the nominal industry)
Households (including unincorporated enterprises)
General government
III. NATIONAL CAPITAL ACCOUNT
Corporate trading enterprises (including public trading enterprises)
Financial enterprises (including the nominal industry)
Households (including unincorporated enterprises)
General government
IV. OVERSEAS TRANSACTIONS ACCOUNT

PLATE 46

Description of the accounts

The *domestic production account* is a consolidation of the production accounts of all producers regardless of sector. The production account is shown as receiving revenue from the sale of goods and services to final buyers; all intermediate goods and services are cancelled out, since they represent a cost to one producer to offset the revenue of the other. On the payments side are shown the payments of indirect taxes less subsidies, and, since the account is presented from the point of view of the producing unit, the wages and salaries paid to employees. The balance is the gross operating surplus which may be divided into depreciation allowances and net operating surplus. Depreciation allowances is carried to the national capital account (or the sector capital accounts) and net operating surplus, together with wages and salaries and indirect taxes less subsidies, is carried to the national income and outlay account (or sector income and outlay accounts). In input-output tables, the domestic production account is broken up into accounts for separate industries, and transactions associated with intermediate usage of goods and services are shown in the production accounts for the separate industries.

The *national income and outlay account* is shown as receiving wages, salaries and supplements, net operating surplus and indirect taxes less subsidies from the domestic production account. From this income are deducted net payments of income and miscellaneous transfers to overseas; the remainder is the national disposable income. The outlay side of the account shows that this disposable income is largely used for final consumption expenditure and the balance is the nation's saving. The national income and outlay account is a consolidation of the sector income and outlay accounts.

The *national capital account* is a consolidation of the sector capital accounts. It shows on the receipts side depreciation allowances transferred from the domestic production account and saving transferred from the national income and outlay account (or from the sector income and outlay accounts). On the payments side are shown purchases by all sectors of new buildings and capital equipment, the increase in stocks of all sectors and a balance described as net lending to overseas. This concept of net lending to overseas includes increases (and, negatively, decreases) in Australia's overseas monetary reserves. The net lending to overseas is also the balance on current transactions in the overseas transactions account.

The *overseas transactions account* records all transactions of a current nature between Australian and overseas residents. Although this is an account for the overseas sector, the items are named from the Australian viewpoint. The account shows that Australia's current receipts from overseas consist of the value of Australia's exports of goods and services, property income received from overseas and transfers from overseas. These receipts are used for Australia's imports of goods and services and payments of property income and transfers to overseas; the balance of current receipts represents net lending to overseas. Positive net lending to overseas corresponds to a surplus on current transactions with overseas, and negative net lending corresponds to a deficit. The transactions in property income shown in this account differ from estimates shown in balance of payments statistics because, in the national accounts, undistributed company income is not imputed to the beneficial owners. For this reason also, net lending to overseas differs from the balance on current account shown in balance of payments statistics.

Estimates at constant prices

For certain kinds of intertemporal comparison, it is desirable to derive measures which attempt to remove the direct effect of price changes during the periods under review. Such estimates, conventionally described as 'at constant prices', are presented in Tables 2 and 5 (pages 646 and 648 respectively) for gross domestic product, exports and imports of goods and services, and gross national expenditure and its principal components.

Part 1 of *Australian National Accounts, National Income and Expenditure,* 1976–77 (5204.0) contains a discussion of the conceptual problems involved in making these estimates. Appendix B of that publication contains a brief account of the sources and methods used in preparing the estimates.

It should be noted that estimates at constant prices involve approximations and assumptions, and care must be taken in the interpretation and use of results.

Reliability and revisions

Estimates of national income and expenditure are necessarily prepared from a very wide range of statistical information, some of which is available quickly and some of which is available only after a delay of several years. Some of it is closely related to the desired national income concepts, but some of it is not completely satisfactory in various respects, including coverage, concepts and timing. Estimates, in particular for the most recent years, are therefore subject to revision. This applies particularly to estimates based on income tax statistics—income of companies, non-farm unincorporated enterprises, depreciation, and part of private gross fixed capital expenditure—which are subject to substantial revisions for the last two years because tabulations of income tax statistics do not become available until about twenty-two months after the end of each financial year.

It is not possible to put precise limits on the degree of revision likely to any particular series, nor to state degrees of reliability in a statistical sense. These depend in large part on the range and quality of the basic statistical data.

National income and expenditure tables

(For explanatory note on item numbers *see* Note following Table 3.)

TABLE 1

DOMESTIC PRODUCTION ACCOUNT

($ million)

		1976–77	*1977–78*	*1978–79*
	Final consumption expenditure—			
1	Private	48,507	54,227	60,547
2	Government	13,226	15,031	16,689
	Gross fixed capital expenditure—			
3	Private	11,766	12,650	14,496
4	Public enterprises	3,703	4,229	4,337
5	General government	3,448	3,723	3,880
6	Increase in stocks	1,001	-400	928
7	Statistical discrepancy	1,329	1,379	1,688
	Gross national expenditure	*82,980*	*90,839*	*102,565*
8	Exports of goods and services	13,097	13,930	16,323
9	*Less* Imports of goods and services	13,297	14,474	17,255
	Expenditure on gross domestic product	**82,780**	**90,295**	**101,633**
10	Wages, salaries and supplements	46,880	51,548	55,879
	Gross operating surplus—			
	Trading enterprises—			
11*a*	Companies	9,721	10,572	10,949
11*b*	Unincorporated enterprises	9,706	10,089	13,301
11*c*	Dwellings owned by persons	4,881	6,094	7,332
11*d*	Public enterprises	1,915	2,048	2,349
11*e*	Financial enterprises	2,062	1,925	2,275
11*f*	*Less* Imputed bank service charge	2,137	2,339	2,620
	Gross domestic product at factor cost	*73,028*	*79,937*	*89,465*
12	Indirect taxes *less* subsidies	9,752	10,358	12,168
	Gross domestic product	**82,780**	**90,295**	**101,633**
	Gross farm product	4,254	4,022	6,642
	Gross non-farm product	78,526	86,273	94,991

TABLE 2

EXPENDITURE ON GROSS DOMESTIC PRODUCT AT AVERAGE 1974-75 PRICES

($ million)

	1976–77	*1977–78*	*1978–79*
Final consumption expenditure—			
Private	37,706	38,606	39,555
Government	10,342	10,912	11,426
Gross fixed capital expenditure—			
Private	9,025	8,812	9,432
Public	5,490	5,652	5,498
Increase in stocks	811	-556	1,163
Statistical discrepancy	1,068	1,003	1,138
Gross national expenditure	*64,442*	*64,429*	*68,212*
Exports of goods and services	10,951	11,202	11,357
Less Imports of goods and services	10,500	10,061	10,931
Expenditure on gross domestic product	**64,893**	**65,570**	**68,638**
Gross farm product	4,039	3,746	5,095
Gross non-farm product	60,854	61,824	63,543

TABLE 3

NATIONAL INCOME AND OUTLAY ACCOUNT

($ million)

		1976–77	1977–78	1978–79
10	Wages, salaries and supplements	46,880	51,548	55,879
11*g*	Net operating surplus	20,613	22,248	26,792
	Domestic factor incomes	*67,493*	*73,796*	*82,671*
13	*Less* Net income paid overseas	938	1,122	1,247
12*a*	Indirect taxes	10,091	10,848	12,738
12*b*	*Less* Subsidies	339	490	570
	National income	*76,307*	*83,032*	*93,592*
14	*Less* Net transfers to overseas	428	418	501
15*g*	Withholding taxes from overseas	96	118	114
	National disposable income	**75,975**	**82,732**	**93,205**
	Final consumption expenditure—			
1	Private	48,507	54,227	60,547
2	Government	13,226	15,031	16,689
15 to 19	Saving	14,242	13,474	15,969
	Disposal of income	**75,975**	**82,732**	**93,205**

NOTE. Items in all current price tables are numbered from 1 to 25, with or without the addition of a letter, and this system is used to identify the corresponding credit and debit entries in the accounts. In some cases the items correspond exactly, while in other cases an entry in one table is the sum of two or more entries in other tables; here the total is given a number, and the components have a number and a letter. In the remaining type of case all entries are given the same number and a distinguishing letter, because in this group one item is not the sum of one or more entries. The relationship between these items can still be traced through because the sum of all credit entries must equal the sum of all debit entries. A description of the numbered items can be found in *Australian National Accounts, National Income and Expenditure* 1976–77 (5204.0).

TABLE 4

NATIONAL CAPITAL ACCOUNT

($ million)

		1976–77	1977–78	1978–79
11*h*	Depreciation allowances	5,535	6,141	6,794
	Saving—			
15	Increase in income tax provisions	354	192	694
16	Undistributed (company) income	1,494	1,505	1,189
17	Retained income of public financial enterprises	538	271	258
18	Household saving	8,876	9,372	12,069
19	General government surplus on current transactions	2,980	2,134	1,759
	Finance of gross accumulation	**19,777**	**19,615**	**22,763**
	Gross fixed capital expenditure—			
	Private—			
3*a*	Dwellings	4,028	3,882	4,043
3*b*	Other building and construction	1,938	2,268	2,530
3*c*	All other	5,800	6,500	7,923
4	Public enterprises	3,703	4,229	4,337
5	General government	3,448	3,723	3,880
	Total gross fixed capital expenditure	*18,917*	*20,602*	*22,713*
	Increase in stocks—			
6*a*	Farm and miscellaneous	-60	-424	891
6*b*	Private non-farm	1,061	24	37
7	Statistical discrepancy	1,329	1,379	1,688
21	Net lending to overseas	-1,470	-1,966	-2,566
	Gross accumulation	**19,777**	**19,615**	**22,763**

TABLE 5

GROSS FIXED CAPITAL EXPENDITURE AND INCREASE IN STOCKS AT AVERAGE 1974-75 PRICES

($ million)

	1976–77	*1977–78*	*1978–79*
Gross fixed capital expenditure—			
Private—			
Dwellings	3,085	2,805	2,840
Other building and construction	1,482	1,599	1,673
All other	4,458	4,408	4,919
Total private	*9,025*	*8,812*	*9,432*
Public	5,490	5,652	5,498
Total	**14,515**	**14,464**	**14,930**
Increase in stocks—			
Farm and miscellaneous	5	–596	1,098
Private non-farm	806	40	65
Total	**811**	**–556**	**1,163**

TABLE 6

OVERSEAS TRANSACTIONS ACCOUNT

($ million)

		1976–77	*1977–78*	*1978–79*
9*a*	Imports f.o.b.	10,345	11,165	13,476
9*b*	Transportation	1,998	2,136	2,513
9*c*	Travel	510	551	655
9*d*	Government transactions	189	223	213
9*e*	Other goods and services	255	399	399
9	*Imports of goods and services*	*13,297*	*14,474*	*17,255*
13*a*	Property income to overseas	1,196	1,391	1,559
14*a*	Personal transfers overseas	290	367	374
14*b*	General government transfers overseas	414	453	518
21	Net lending to overseas	–1,470	–1,966	–2,566
	Use of current receipts	**13,727**	**14,719**	**17,140**
8*a*	Exports f.o.b.	11,399	12,042	14,057
8*b*	Transportation	1,238	1,316	1,545
8*c*	Travel	278	325	370
8*d*	Government transactions	88	93	99
8*e*	Other goods and services	94	154	251
8	*Exports of goods and services*	*13,097*	*13,930*	*16,323*
13*b*	Property income from overseas	258	269	312
14*c*	Personal transfers from overseas	276	402	391
15*g*	Withholding taxes	96	118	114
	Current receipts from overseas	**13,727**	**14,719**	**17,140**

TABLE 7

MAIN AGGREGATES AT CURRENT PRICES, 1955-56 TO 1978-79

($ million)

	1	2	3	4	5	6	7 (1 to 6)
	Final consumption expenditure						
Year	*Private*	*Government*	*Private gross fixed capital expenditure*	*Public gross fixed capital expenditure*	*Increase in stocks*	*Statistical discrepancy*	*Gross national expenditure*
1955–56	6,907	1,043	1,640	927	229	–133	10,613
1956–57	7,381	1,086	1,717	950	–45	–219	10,870
1957–58	7,740	1,121	1,858	998	56	–117	11,656
1958–59	8,142	1,223	1,922	1,100	253	–112	12,528
1959–60	8,932	1,312	2,191	1,214	168	37	13,854
1960–61	9,477	1,410	2,415	1,256	478	–39	14,997
1961–62	9,763	1,529	2,328	1,380	–219	–119	14,662
1962–63	10,462	1,629	2,580	1,434	253	–136	16,222
1963–64	11,288	1,787	2,913	1,586	120	–108	17,586
1964–65	12,213	2,042	3,398	1,852	561	36	20,102
1965–66	12,990	2,373	3,657	2,066	109	–69	21,126
1966–67	14,026	2,700	3,825	2,184	336	–148	22,923
1967–68	15,321	3,048	4,164	2,369	125	–215	24,812
1968–69	16,580	3,331	4,730	2,532	698	–162	27,709
1969–70	18,234	3,643	5,162	2,756	449	67	30,311
1970–71	20,118	4,202	5,839	2,935	496	–33	33,557
1971–72	22,329	4,756	6,331	3,297	55	241	37,009
1972–73	24,976	5,425	6,685	3,476	–287	673	40,948
1973–74	29,465	6,765	7,772	3,983	1,252	1,706	50,943
1974–75	35,669	9,160	8,535	5,673	873	1,430	61,340
1975–76	42,472	11,356	10,219	6,703	47	972	71,769
1976–77	48,507	13,226	11,766	7,151	1,001	1,329	82,980
1977–78	54,227	15,031	12,650	7,952	–400	1,379	90,839
1978–79	60,547	16,689	14,496	8,217	928	1,688	102,565

	8	9	10 (7+8–9)	11	12	13	14
Year	*Exports of goods and services*	*Imports of goods and services*	*Gross domestic product*	*Gross domestic product at factor cost*	*National income*	*Household income*	*Wages, salaries and supplements*
1955–56	1,734	1,953	10,394	9,331	9,601	8,561	5,444
1956–57	2,184	1,736	11,318	10,121	10,458	9,144	5,758
1957–58	1,840	1,925	11,571	10,274	10,529	9,146	5,980
1958–59	1,860	1,960	12,428	11,080	11,286	9,844	6,273
1959–60	2,126	2,285	13,695	12,220	12,449	10,811	6,961
1960–61	2,168	2,601	14,564	12,993	13,201	11,617	7,500
1961–62	2,452	2,204	14,910	13,375	13,472	12,045	7,746
1962–63	2,491	2,610	16,103	14,460	14,544	12,830	8,197
1963–64	3,156	2,860	17,882	16,110	16,251	14,234	8,937
1964–65	3,035	3,473	19,664	17,707	17,777	15,564	10,018
1965–66	3,135	3,617	20,644	18,504	18,578	16,355	10,822
1966–67	3,459	3,695	22,687	20,416	20,396	18,107	11,816
1967–68	3,539	4,134	24,217	21,736	21,711	19,048	12,860
1968–69	3,895	4,268	27,336	24,597	24,583	21,425	14,237
1969–70	4,733	4,759	30,285	27,262	27,208	23,634	15,992
1970–71	5,044	5,092	33,509	30,201	30,252	26,543	18,340
1971–72	5,596	5,216	37,389	33,692	33,849	30,002	20,496
1972–73	6,937	5,347	42,538	38,295	38,706	34,417	22,904
1973–74	7,762	7,671	51,034	45,714	47,000	42,338	28,078
1974–75	9,938	10,018	61,260	54,644	56,608	52,557	36,027
1975–76	10,908	10,468	72,209	63,681	66,628	61,371	41,445
1976–77	13,097	13,297	82,780	73,028	76,307	70,406	46,880
1977–78	13,930	14,474	90,295	79,937	83,032	78,007	51,548
1978–79	16,323	17,255	101,633	89,465	93,592	87,883	55,879

Sources of information

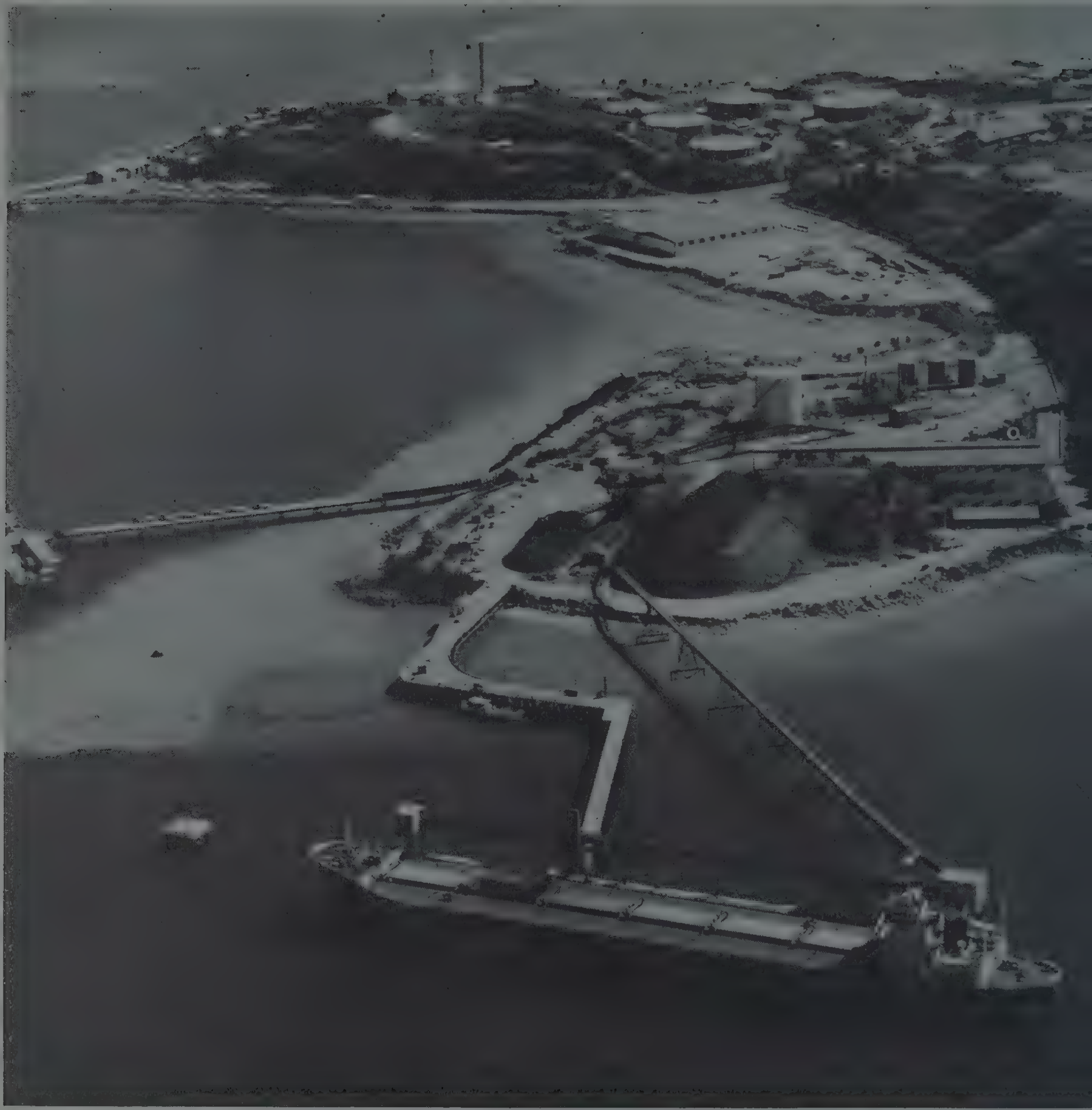
The detailed annual estimates of national income and expenditure are published in *Australian National Accounts, National Income and Expenditure* (5204.0). Preliminary estimates (less detailed) are published in a Budget Paper *National Income and Expenditure* usually in August. Quarterly estimates are published in *Quarterly Estimates of National Income and Expenditure, Australia* (5206.0). Historical quarterly series of gross domestic product and related aggregates at current and constant prices consistent with the Australian National Accounts publication (5204.0) are presented in *Supplement to Quarterly Estimates of National Income and Expenditure, Australia, December Quarter* (5207.0).

Australian National Accounts, Gross Product by Industry at Current and Constant Prices, 1977–78 was published in December 1979. The Bureau also compiles input-output tables for the Australian economy. Tables for the year 1968–1969 were published in *Australian National Accounts, Input-Output Tables* 1968–69 (5209.0) in November 1977. Preliminary tables for 1974–75 were published in *Australian National Accounts, Input-Output Tables (Preliminary)* (5208.0) in April 1979.

The figures shown on pages 646–8 are as published in *Budget Paper, National Income and Expenditure,* 1978–79.

CHAPTER 24

OVERSEAS TRANSACTIONS



The motor vessel DARWIN MARU loads iron ore at Darwin, the capital of Australia's Northern Territory.

AUSTRALIAN INFORMATION SERVICE PHOTOGRAPH. Industry—Mining 17/11/72/29

CHAPTER 24

OVERSEAS TRANSACTIONS

This chapter includes statistics of overseas trade, balance of payments, and overseas investment by private investors; however, because of limitations of space, the statistics are mainly restricted to summarised form.

OVERSEAS TRADE

Constitutional provisions and legislation

Constitutional provisions

By the Commonwealth of Australia Constitution Act, section 51 (1), the power to make laws with respect to trade and commerce with other countries was conferred on the Australian Parliament. Under section 86 of the Constitution, the collection and control of duties of customs and excise passed to the Executive Government of the Commonwealth on 1 January 1901. Other references to trade and commerce are contained in sections 87 to 95 of the Constitution.

Commonwealth Government Legislation

Commonwealth Government legislation affecting overseas trade includes the Customs Act, the *Customs Tariff* and the *Customs Tariff (Anti-Dumping) Act* 1975. The *Customs Tariff* provides the statutory authority for imposing the actual rates of duty operative from time to time, while the Customs Tariff (Anti-Dumping) Act provides protection for Australian industry against various forms of unfair trading.

The Customs Tariff

The first *Australian Customs Tariff* was introduced by Resolution on 8 October 1901, from which date uniform duties came into effect throughout Australia. The *Australian Customs Tariff* has been developed in conformity with the policy of protecting economic and efficient Australian industries and of granting preferential treatment to certain imports from countries of the Commonwealth and certain developing countries. Customs collections are a major source of revenue, but in its protective character the tariff has an important influence on the Australian economy. However, an extra duty known as 'primage' is imposed on some goods, generally of a luxury nature, for revenue purposes.

The present tariff provides for general and preferential rates of duty, and its structure is based on the 'Customs Co-operation Council Nomenclature' (formerly known as the 'Brussels Nomenclature') which has its origins in the Convention on Nomenclature for the Classification of Goods in Customs Tariffs, signed in Brussels on 15 December 1950. The *Australian Customs Tariff* has been based on the Customs Co-operation Council Nomenclature since 1 July 1965.

Preferential rates. Preferential rates generally apply to goods, the produce or manufacture of the United Kingdom, Ireland, Canada, New Zealand and Papua New Guinea, and to certain goods, the produce or manufacture of specified countries, provided that such goods comply with the laws in force at the time affecting the grant of preference.

Details of the rules covering the application of preferential rates may be found in Year Book No. 61, pages 316 and 317, or by reference to the *Customs Act* 1966 and associated regulations.

Declared preference countries or developing countries. Under the Customs Act, certain goods from specified countries are subject to special rates of duty. Countries to which these special rates apply are classed as 'declared preference countries' or 'developing countries'. A full list of these countries, and goods excluded from the special rates of duty normally applicable, is given in the *Australian Customs Tariff.*

General rates. General rates apply to goods from all countries which do not qualify for preferential rates of duty under a particular tariff classification.

By-law provisions. Customs By-laws and Ministerial Determinations are legal instruments, made in accordance with the provisions of the Customs Act, to authorise admission of imported goods either free of duty or at rates of duty lower than those normally applicable. The rates of duty that apply where concessional entry has been granted are contained in the Customs Tariff and are identified by the words 'as prescribed by by-law'. The most frequently used by-law provision is Item

19 in Schedule 2 to the *Customs Tariff* which allows duty free admission of goods, 'being goods a suitable equivalent of which that is the produce or manufacture of Australia is not reasonably available'. Normally, by-laws identify goods by general description, have neither quantity nor time limitations and may be used by any importer. Ministerial Determinations may be either in that form or, if it is necessary to limit the availability of concessions to ensure that the tariff protection accorded to local industry is maintained, be restricted in some way, e.g. quantity or time limitations. By-laws and notices of the making of Ministerial Determinations are published in the Commonwealth of Australia Gazette.

Anti-Dumping duties. The *Customs Tariff (Anti-Dumping) Act* 1975 provides protection for Australian industry against various forms of unfair trading. Under this Act dumping duty may be imposed on goods that are sold to Australian importers at a price which is less than the normal value of the goods, where this causes or threatens material injury to an Australian industry.

For details on the calculation of dumping duty *see* Year Book No. 61, page 320 or the *Customs Tariff (Anti-Dumping) Act* 1975.

Import controls

Import controls, by global tariff quotas or import licensing, are introduced to assist local industry following inquiry and report by the Industries Assistance Commission, the Textiles Authority or the Temporary Assistance Authority. At present, the textile, apparel, footwear, motor vehicle and steel industries are assisted by import control. Import licensing firmly limits import quantities, provides for penal and seizure action and may be selectively applied to particular goods or countries. As such, it differs from global tariff quotas which allow imports up to a predetermined level, above which additional duties may be imposed. At present, some 42 commodities or groups of commodities are subject to import controls. Further information on import controls may be obtained from the Bureau of Customs, Department of Business and Consumer Affairs, Edmund Barton Building, Barton, A.C.T. 2600.

Export controls and incentives

Export restrictions. Section 112 of the Customs Act provides that the Governor-General may, by regulation, prohibit the exportation of goods from Australia and that this power may be exercised by: (*a*) prohibiting the exportation of goods absolutely; (*b*) prohibiting the exportation of goods to a specified place; and (*c*) prohibiting the exportation of goods unless prescribed conditions or restrictions are complied with. Goods subject to this export control are listed in the Customs (Prohibited Exports) Regulations.

Exchange control—Banking Act 1959. As an integral part of the framework of exchange control, a control over goods exported from Australia is maintained under the provisions of Part III of the Banking (Foreign Exchange) Regulations to ensure that the full proceeds of such goods are received into the Australian banking system and that these proceeds are received in the currency and in the manner prescribed by the Reserve Bank of Australia. This action is complementary to that taken under other parts of the Banking (Foreign Exchange) Regulations to control the movement out of Australia of capital in the form of securities and currency.

Export incentives. The Commonwealth Government provides financial incentives to encourage exports. *The Export Market Development Grants Act* 1974 was introduced to operate for five years from 1 July 1974 but has been revised (to improve its effectiveness) with effect from 1 July 1978. The scheme will now operate until 30 June 1982. The scheme administered by the Export Development Grants Board, which is responsible to the Minister for Trade and Resources, is designed to encourage exporters and potential exporters to seek out and develop overseas markets. The scheme covers exporters of primary products, industrial goods, certain services including tourism, know-how and industrial property rights, whether the exporter is an individual, partnership, company or marketing organisation.

The scheme operates by way of taxable grants, to a maximum of $100,000 (and in certain circumstances to $125,000), against eligible expenditure incurred on overseas market research and promotional publicity activities and development.

The Board also administers the *Export Expansion Grants Act* 1978, a scheme designed to reward improved export performance. Grants, which are taxable, are calculated on a formula applied to the increase in exports in a grant year, over the average annual exports in the three immediately preceding years. The scheme covers a wide range of goods and services. However, some products are excluded including minerals, wool, wheat, sugar, livestock, certain meats, woodchips and hides and skins of cattle and sheep. The scheme took effect from 1 July 1977 and will run until mid 1982.

Export education. A national export consciousness program entitled the "Export Now" campaign was launched by the Prime Minister in February 1979. The campaign, which is managed by the Department of Trade and Resources in close association with the Trade Development Council, will run for three years. It aims to increase the awareness of industry and of the community at large, of the economic benefits to be obtained from increasing Australia's exports and to inform exporters of the range of assistance available to them from the Government.

State Export Action Committees. Committees comprising leading representatives from business, commerce, unions and Federal and State Governments have been formed in each State and the Northern Territory to arrange and implement a broad-ranging program of seminars, workshops and training courses for the "Export Now" campaign. This is being supported by a nationwide publicity program.

Export awards. To give public recognition to firms and individuals for outstanding export endeavour and to support the "Export Now" campaign, a number of new export awards have been created including: The Governor-General's Award for Export Excellence; Export Dedication Awards which recognise outstanding efforts by individual employees; the Major Trading Banks of Australia Export Awards highlighting the export achievements of firms and employees in the export of Australian services and technology and, the Australian Mining Industry Council Award for Export Achievement in the Mining Industry. These are in addition to a new series of State export awards and the long-established Annual Export Awards organised in association with the Confederation of Australian Industry.

Trade descriptions

The Commerce (Trade Descriptions) Act 1905. This Act, administered by the Bureau of Customs of the Department of Business and Consumer Affairs, gives power to require the application of a proper trade description to certain prescribed goods imported into or exported from Australia. Goods which must bear a prescribed trade description upon importation into Australia are specified in the Commerce (Imports) Regulations. As regards exports from Australia, marking requirements are prescribed in regulations issued under the Act and in relation to specified export commodities.

Government authorities

Export Finance and Insurance Corporation

The Export Finance and Insurance Corporation (EFIC) was established by the Commonwealth Government in 1975 to provide Australian exporters with a specialised range of insurance guarantee and finance facilities not normally available from commercial sources. The EFIC took over the functions of the Export Payments Insurance Corporation which had been operating since 1956.

Trade Relations

Multilateral—General Agreement on Tariffs and Trade

The General Agreement on Tariffs and Trade (GATT), which came into force on 1 January 1948, is a multilateral trade treaty designed to facilitate trading relations between participating countries by reducing tariff and other barriers to the free interchange of goods. The Agreement provides a framework within which negotiations can be held to reduce barriers to trade, and a structure for embodying the results of such negotiations in a legal instrument.

Features of the Agreement are the schedules of tariff concessions participating countries have negotiated with each other, the application of most favoured nation tariff treatment among the participants, the avoidance of other trade discrimination, and of agreed commercial policy rules for international trading. Each participating country retains the right: (*a*) to impose new or increased duties for protective purposes except in respect of particular products where rates of duty have been bound against increase in negotiations under the Agreement; (*b*) by negotiation to modify or withdraw concessions formerly agreed; (*c*) to impose import restrictions to protect the balance of payments; (*d*) to take emergency action where any industry is endangered by reason of any obligation incurred under the Agreement.

The General Agreement is applied provisionally by all its contracting parties pursuant to Protocols of Provisional Application. Under the terms of these protocols, contracting parties are not required to amend pre-existing legislation in order to bring them into line with the provisions of the General Agreement. As at 1 November 1979, there were eighty-four contracting parties to the Agreement, four countries who had provisionally acceded (i.e. they participated in GATT but had not yet contracted to it), twenty-eight countries who applied the provisions of the Agreement on a de facto basis and two applications, one for full accession and the other for provisional accession to the General Agreement. These 117 countries account for approximately 85 per cent of world trade.

Up to the end of 1979 the contracting parties had held thirty-five sessions, nearly all in Geneva, to deal with matters arising from the administration of the Agreement. As a general rule the contracting parties meet once a year, although in a few instances they have met twice. In 1960 a Council of Representatives was established to undertake work, both of an urgent and of a routine character, between the annual sessions of the contracting parties. Some of the provisions of the Agreement were revised in 1954 and 1955. The revised Agreement contains tighter provisions on non-tariff barriers to trade, and allows more freedom for countries to revise individual tariff items which had been bound against an increase in tariff negotiations under the Agreement.

There have been seven main tariff negotiations under the provisions of the Agreement, and a number of smaller scale negotiations preceding the accession for individual countries. As a result, the tariff rates for a great many items entering into world commerce have been reduced and/or bound against increase. Australia has obtained tariff concessions from individual countries on a number of its principal or potential exports to them, as a result both of direct negotiation by Australia and of negotiation by other countries. In the latter case the benefits occurred through the operation under the Agreement of the most favoured nation principle.

The Multilateral Trade Negotiations (MTN), the seventh under the auspices of the GATT, were inauguarated at a meeting of Ministers in Tokyo in September 1973. Almost one hundred countries (both members and non-members of GATT) participated in the negotiations which were concluded during 1979.

Fourteen agreements or understandings which aim at liberalising and stabilising international trade in both industrial and agricultural products have been finalised. The subjects covered are subsidies and countervailing duties; government procurement; customs valuation; standards; import licensing; anti-dumping; trade in civil aircraft; reciprocity; more favourable treatment and fuller participation for developing countries; trade measures for balance of payments purposes; safeguard action for development purposes; notification, consultation, dispute settlement and surveillance; export restrictions; arrangements relating to bovine meat and dairy products.

Whether governments will accede or not to these agreements (most of which are expected to come into effect on 1 January 1980) is now subject to consideration.

Within the context of the MTN various participants have held bilateral negotiations with the aim of exchanging tariff and access concessions. Australia has concluded bilateral agreements with the U.S.A., EEC and Japan which, inter alia provide for better access of Australian beef, dairy products and wool. Australia hopes to conclude bilateral agreements with other trading partners before the end of 1979.

Increasing attention has been focused in GATT on specific trade and development problems of developing countries, and in February 1965 a new Part IV of GATT, aimed at helping developing countries solve these problems, was introduced on a *de facto* basis. It entered legally into force in June 1966. The new Part IV embodies commitments to individual and joint action by contracting parties, aimed at ensuring that the developing countries can increasingly find the means to raise standards of living and promote rapid economic development through participating in international trade and achieving sustained growth of their export earnings.

Arising from their commitments under GATT, the developed countries have introduced 'Generalised System of Preferences' (GSP) which offer tariff preferences on developing country products.

The Australian System of Tariff Preferences for Developing Countries, like those of other donors, is a unilateral, non-reciprocal and non-contractual provision of specified preferential tariff advantages. Accordingly, Australia reserves the right at any time to modify, withdraw, suspend or limit the preferential treatment for any item or with respect to any beneficiary.

Australia's system of tariff preferences was introduced in 1966 (the first in the world) and was substantially revised and expanded from 1 January 1974. Reviews undertaken in 1976 and 1979 have further extended the product coverage of the system and it now covers most dutiable manufactured, semi-manufactured and substantially processed primary products. Margins of preference offered under the system are generally 10 to 15 per centage points below the General Tariff rate.

In 1977–78 import clearances from developing countries totalled $2,509 million of which $1,818 million (72%) was eligible for duty-free entry at General or preferential rates. A further $265 million (11%) was dutiable at preferential rates and only $427 million (17%) was excluded from preference and dutiable at General Tariff rates.

The system is designed to assist developing countries to overcome their disadvantages in competing with other countries in the Australian market, providing always that such imports do not cause or threaten injury to Australian industry. A range of products where developing countries generally are already competitive on the Australian market are excluded from the system and preferences on a number of additional products have been withdrawn because of disruption to local industry. In some cases specific beneficiaries have been excluded from a preference.

Proposals for the addition or withdrawal of products from the system are referred to the Industries Assistance Commission for inquiry and report. This procedure gives all interested parties the opportunity to submit their views in evidence to a public inquiry.

Bilateral arrangements

West Europe—Australia has not concluded a trade agreement with the European Economic Community. The EEC comprises the world's largest trading bloc (accounting for 40 per cent of world trade) and is Australia's second largest trading partner and its largest source of imports.

Although the EEC has formal trading arrangements with a large number of countries providing either free trade or preferential treatment, no such arrangement has been concluded with Australia. However, in the context of the Multilateral Trade Negotiations Australia was able to gain improved access into Community markets for a number of agricultural products. In addition, Australian exports of a range of agricultural and industrial products will benefit from progressive tariff reductions which are to be undertaken by the Community from 1 January 1980.

In recent years, Australia has suffered a large and growing trade deficit with the EEC which has reflected an imbalance of trading opportunities. Since 1977 Ministerial and high level officials' discussions between Australia and the EEC have been directed towards correcting this situation. In May 1979 a bilateral settlement with the EEC was concluded within the Multilateral Trade Negotiations which provides certain Australian agricultural exports, particularly beef and cheese, with valuable new openings and guaranteed levels of access in EEC markets. While the bilateral settlement does not eliminate all of the problems which affect Australia's trading relationship with the EEC, it represents an important beginning. In areas such as EEC export subsidies, where serious problems still exist, Australia will continue to seek a limitation on the level of those subsidies particularly when they operate to the disadvantage of Australian exports in our traditional markets. Greater co-operation has also been sought from the EEC in international commodity stabilisation especially in respect of sugar.

Bilateral trade agreements (involving Customs Tariff preferences and free trade arrangements)

New Zealand—The New Zealand/Australia Free Trade Agreement (NAFTA) signed in 1965 which came into force on 1 January 1966, has the main objective of furthering the development of the NAFTA area and the use of its resources by promoting a sustained and mutually beneficial expansion of trade. The Agreement provides for free trade in certain scheduled goods and for progressive listing in the Schedule of all goods unless the addition of such goods would be seriously detrimental to domestic industry, contrary to national interest or inconsistent with any commodity arrangement to which both countries are parties. In respect of non-scheduled goods the Agreement provides under Article 3:7 for both countries to agree on special measures beneficial to the trade and development of each country.

The 1933 Trade Agreement between Australia and New Zealand continues in effect as part of NAFTA except as superseded or modified by it.

Following U.K. accession to the EEC and consequent termination of Australia's and New Zealand's respective trade agreements with the U.K., both countries negotiated an interim Agreement in May 1973 to maintain, to the maximum extent possible, the preferences derived from those trade agreements. A more enduring Agreement on Tariffs and Tariff Preferences was subsequently negotiated and entered into force in December 1977.

Canada—signed 1960. Provides for each country to give the other tariff preferences on specific goods and for the exchange of preferences in each country's tariff derived from the preferential agreements each had with Britain. The termination of these agreements with Britain created a need for Canada and Australia to review their own preferential trading arrangements. An Exchange of Letters governing the future operation of the 1960 Agreement was signed on 25 October 1973. The Exchange provides for a continuation of the tariff preferences, but on a more flexible basis, with some other modifications of provisions of the 1960 Agreement, particularly those relating to indirect shipment of goods and to anti-dumping procedures.

Malaysia—signed 1958. The Agreement provides for each country to accord preferences to the other on certain specified goods. The exchange of these preferences was placed on a more flexible basis by an Exchange of Letters on 21 February 1975. The Agreement further provides for protection of Malaysia's tin and rubber exports to Australia and of Australia's wheat exports to Malaysia against dumped or subsidised competition. There are also certain guarantees of market access for Australian wheat in the Malaysian market and for natural rubber in the Australian market provided that the Papua New Guinea natural rubber crop is absorbed. The agreement also assures Malaysia that any Australian import licensing restriction on natural rubber will be the same as for synthetic rubber and that Australia import duties on natural rubber will not exceed those on synthetic rubber.

Papua New Guinea—came into force 1977. The Papua New Guinea Australia Trade and Commercial Relations Agreement (PATCRA) provides, inter alia, that subject to certain exceptions, trade between Australia and Papua New Guinea shall be free of duties and other restrictions.

Other Bilateral Trade Agreements

(in most instances involving, inter alia, exchange of most favoured nation treatment for imports)

Bahrain—signed 1979. Provides, inter alia, for a Joint Committee; measures to expand trade, economic relations and technical co-operation; facilitates joint ventures in each country and includes provision for the exchange of commercial and technical expertise.

Brazil—signed 1978. The agreement represented a significant development in strengthening trade and economic links between Australia and Brazil. It basically confirms GATT rights and obligations and emphasises industrial co-operation including investment. A significant feature is the ten year initial life of the Agreement to cover long term commodity contracts. It also establishes a Joint Consultative Committee which meets annually.

People's Republic of China—signed 1973. The Agreement provides, inter alia, for reciprocal most favoured nation treatment for imports, while recognising the preferential arrangements extended by both countries. The Agreement includes schedules of goods which each country is interested in exporting to the other. It also provides that exchanges of goods and technical services under contracts and agreements will be at reasonable international market prices; that payments in relation to trade will be in freely convertible currency; and that each country will promote the inter-change of trade representatives, groups, and delegations, and encourage the commercial exchange of industrial and technical expertise. The Agreement also established a Joint Trade Committee to further the aims of the Agreement.

Eastern European Countries

The development of Australia's trade relations with the countries of Eastern Europe began as part of a policy of diversification away from Western Europe in the mid 1960's.

Australia has signed formal trade agreements with a number of the European member countries of the Council for Mutual Economic Assistance (CMEA): U.S.S.R. (1965 and a supplementary Agreement in 1973), Czechoslovakia (1972), German Democratic Republic, Hungary, Bulgaria (all in 1974), Romania (1975) and Poland (1978).

The Agreements are all broadly similar in their provisions. They either confirm reciprocal most favoured nation treatment of imports while recognising preferential arrangements or, as in the Trade Agreements with Czechoslovakia, Hungary, Poland, and Romania, acknowledge that trade between Australia and these countries is to be in accordance with the rights and obligations of both countries under the General Agreement on Tariff and Trade. They provide for the encouragement and facilitation of the further development of mutually beneficial trade and economic relations and express support in principle for the conclusion of relevant international commodity agreements aimed at improving the conditions of international trade in primary products.

With the exception of the agreement with Czechoslovakia there are also provisions to encourage and facilitate the development of economic co-operation and the negotiation of long term commercial contracts between respective enterprises and organisations and the interchange of commercial and technical representatives, groups and delegations. Mixed Commissions are also established by these Agreements to provide a forum for regular bilateral discussions on trade development and trade related issues and problems.

A bilateral Trade Agreement is also in force with Yugoslavia, signed in 1970, but this does not provide for the establishment of a formal Mixed Commission.

A Protocol to the Trade Agreement with the German Democratic Republic on Industrial and Technical Co-operation was signed in Berlin in 1977.

India—signed 1976. The Agreement confirms that trade between the two countries shall be conducted in accordance with the provisions of GATT. It provides for encouragement and co-operation between India and Australia and establishes a Joint Trade Committee to meet annually and review the operation of the Agreement and advance its objectives.

Indonesia—signed 1972. The current Agreement replaced an earlier Agreement signed in 1959. It provides, inter alia, for reciprocal most favoured nation treatment of imports; expresses support for trade initiatives and arrangements among member countries of the Association of South East Asian Nations (ASEAN); declares support in principle for international commodity agreements and encouragement for Australian commercial investment in Indonesia.

Iran—signed 1974. The Agreement states that the two governments are to take all appropriate measures to facilitate, strengthen, and diversify trade and encourage industrial and technical co-operation; declares the support of both governments for the principle of long-term contracts between organisations and enterprises of the two countries; incorporates schedules of goods each country is interested in exporting to the other; and provides that payments in relation to trade will be in convertible currency. The Agreement also established a committee of representatives to further the aims of the Agreement.

Japan—signed 1957. The current Agreement on Commerce between Australia and Japan was initially signed in 1957, amended in 1963 and formally ratified on 27 May 1964. It provides for reciprocal most favoured nation treatment of imports while recognising the preferential arrangements of both countries; for certain commitments by Japan in regard to some important Australian export commodities including wool, soft wheat, sugar, canned meat, leather, butter and cheese; and for equal opportunity for Japanese products in relation to Commonwealth Government purchases from suppliers overseas. It also provides for close consultation between the two countries on matters relating to trade.

Republic of Korea—signed 1975. The current Agreement replaced an earlier Agreement entered into by Australia and the Republic of Korea in 1965. The new Agreement states that the two governments are to take all appropriate measures to facilitate, strengthen, and diversify bilateral trade in accordance with the General Agreement on Tariffs and Trade; recognises the need to improve the conditions of world commodity trade; declares support in principle for international commodity agreements, and expresses support in principle for the conclusion of long-term commercial contracts between organisations and enterprises of the two countries. The Agreement also established a Joint Trade Committee to further the aims of the Agreement.

Philippines—signed 1975. Provides, inter alia, for reciprocal most favoured nation treatment of imports from either country; recognises preferential agreements of both countries; established a Joint Commission and encourages Australian investment and joint ventures in the Philippines. The Agreement did not enter into force until 1979.

South Africa—signed 1935. Provides for most favoured nation treatment in the Customs Tariff of each country.

Switzerland—signed 1938. Provides inter alia, for most favoured nation treatment in the Customs Tariff of each country; for reduction in import duties on certain goods by each country and minimum annual quotas for several Australian primary products exported to Switzerland.

Thailand. Provides inter alia, for facilitation of trade; most favoured nation treatment; a Joint Trade Committee and encourages economic commercial and industrial co-operation including investment in joint ventures.

Socialist Republic of Viet Nam—signed in 1974. Provides, inter alia, for reciprocal most favoured nation treatment for imports and expresses support for the principle of long term commercial contracts.

Yugoslavia—see reference under Eastern European countries.

Trade services

Trade Commissioner Service

The stimulation of interest abroad in Australia's exports is an important government activity in which the Australian Trade Commissioner Service plays a prominent part. A brief account of the establishment and growth of the Trade Commissioner Service before the 1939–45 War is available in Year Book No. 51, page 496. Since the War the service has increased steadily; by early 1980 there was an establishment of 174 Trade Commissioners and Assistant Trade Commissioners in Australia and at 55 posts in 46 countries.

Trade Commissioners are responsible for providing commercial intelligence in their territories in the fields of manufactured goods, rural commodities, reasources, energy and technical and allied services. Particular facilities provided for Australian exporters and export organisations include: surveying market prospects; advising on selling and advertising methods; arranging introductions with buyers and agents; providing reports on the standing of overseas firms; advising and assisting business visitors; helping to organise and carry through trade missions, trade displays, newspaper supplements, and other promotion and publicity media; providing information on import duties, import licensing, economic conditions, quarantine and sanitary requirements, and other factors affecting the entry and sale of goods and services and helping to attract desirable investment.

In some countries Trade Commissioners also participate in inter-governmental negotiations in the resources and commercial fields. In certain countries where there is no diplomatic or consular mission, Trade Commissioners are called upon to act as the Australian government representative.

Trade Commissioners, Assistant Trade Commissioners and Trainee Trade Commissioners are drawn from both private enterprise and the public service. Applications for entry are invited periodically by public advertisement. Recruitment is generally at the Trainee Trade Commissioner and Assistant Trade Commissioner level and officers are promoted to higher grades or to Trade Commissioner as experience and performance warrant. In the majority of posts the Trade Commissioner is supported by an Assistant Trade Commissioner and, in many cases, also by another Trade Commissioner.

The Trade Commissioner Service is administered by the Department of Trade and Resources (as distinct from the diplomatic and consular services administered by the Department of Foreign Affairs), but in countries where there is an Australian diplomatic or consular mission it is the practice for Trade Commissioners to be attached to that mission and to hold an appropriate diplomatic or consular rank—Minister (Commercial), Counsellor (Commercial) or Commercial Secretary.

The countries where Australian Trade Commissioner posts are located are shown in the following list. Except where indicated the missions are located in capital cities only. Algeria; Argentina; Austria; Bahrain; Belgium; Brazil (Rio de Janeiro); Britain; Canada (Vancouver, Toronto, Ottowa); China, People's Republic; Egypt, Arab Republic of; Fiji; France; German Democratic Republic; Germany, Federal Republic; Greece; Hong Kong; India; Indonesia; Iran; Iraq; Israel; Italy (Rome, Milan); Japan (Tokyo, Osaka); Kenya; Korea, Republic of; Kuwait; Libya; Malaysia; Mexico; Netherlands; New Zealand (Wellington, Auckland); Papua New Guinea; Philippines; Poland; Saudi Arabia; Singapore; South Africa (Johannesburg); Spain; Sweden; Switzerland (Geneva); Thailand; United Arab Emirates (Abu Dhabi); United States of America (Washington DC, Chicago, Los Angeles, San Francisco, New York); U.S.S.R.; Venezuela; Yugoslavia, Socialist Federal Republic.

Full details of the Australian Trade Commissioner posts are available from the Department of Trade and Resources, Canberra, A.C.T. 2600.

Australian Trade Correspondents and Marketing Officers

Detached Australian Trade Correspondents and Marketing Officers supplement the work of the Trade Commissioner in whose territory they are located. Correspondents are situated in various locations throughout the world.

Trade Missions

Since 1954 the Commonwealth Government has sent trade missions abroad as part of its trade promotion program. The experience acquired has indicated the need for flexibility in techniques to suit particular products or markets. At present the following types of trade missions are in use:

Survey missions. These are organised to obtain precise knowledge about the export trade potential for specific products in one or more overseas markets. Such methods are used to explore export prospects in new or developing areas where commercial intelligence is not readily available or where a complex industry is involved and the industry requires special export knowledge.

Specialised and general trade missions. Arrangements are made for specific industries or groups of firms representing a number of industries to participate in a planned selling campaign in overseas markets with known sales potential. The mission visits the market, publicises its products and negotiates sales.

Up to the end of October 1978, Australia had sent overseas 142 trade and survey missions and 5 trade ships.

Trade displays, fairs, exhibitions and store promotions

For many years Australia has organised or participated in numerous major trade fairs, exhibitions and displays in Africa, Asia, Europe, the Americas, the Middle East and the Pacific area.

Initially, the emphasis was on participation in general trade fairs directed at the public and the general commercial community; however, with the development of export promotion techniques and the greater diversity of goods available for export, greater emphasis is now being placed on individual Australian trade displays and participation in specialised trade shows directed almost entirely at the business community. In addition, display rooms in Trade Commissioner offices are currently in use in Singapore, Kuala Lumpur, Manila, Hong Kong, Jakarta, Port Moresby and Suva.

Market Advisory Services

The Australian Government has established a Market Advisory and Preference Section in the Department of Trade and Resources to advise and assist developing countries and countries with centrally planned economies in the marketing of their products in Australia. The Section, which is located in Canberra, is supported by two experienced Australian Trade Commissioners—one located in Sydney and the other in Melbourne—to maintain contact with the commercial sector and provide direct practical assistance.

Australian Standard Commodity Classification

The Australian Standard Commodity Classification (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a large number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the Australia Standard Industrial Classification (ASIC)) in which they are typically produced.

The first edition of the ASCC was restricted to commodities originating in the manufacturing industries. The second edition, which relates to the year 1977–1978 and is to be published in 1980, has been amended to also include commodities originating in the agriculture, forestry, fishing, hunting and mining industries.

The classification will continue to be developed over the coming years to improve the alignment between production, imports and exports.

The ABS also publishes a statistical publication, *Comparable Commodity Statistics of Production, Imports and Exports* (1310.0) containing commodity statistics of Australian production, imports and exports based on the standard (ASCC) items contained in the ASCC manual. The second edition of this publication, which is to be published in 1980, relates to the year 1977–78 and will contain Australian production, import and export commodity statistics of manufactured goods classified in accordance with the standard (ASCC) items in the second edition of the ASCC manual.

Trade representation in Australia

The Trade Representatives of overseas governments in Australia are shown in the following list. Full details of Trade Representatives in Australia are available from the Department of Foreign Affairs, Canberra, A.C.T. 2600.

Austria (Sydney); Belgium (Sydney, Melbourne, Perth); Britain (Canberra, Sydney, Melbourne Brisbane, Adelaide, Perth); Bulgaria (Sydney); Canada (Sydney, Melbourne); China (Canberra); Czechoslovakia (Sydney); Denmark (Sydney, Melbourne); Finland (Sydney); France (Sydney, Melbourne); German Democratic Republic (Sydney); Germany, Federal Republic of (Sydney, Melbourne); Greece (Sydney); Hungary (Sydney); Israel (Sydney); Italy (Sydney, Canberra, Melbourne); Indonesia (Sydney, Canberra); Japan (Canberra); Malaysia (Sydney); Mexico (Sydney); New Zealand (Sydney, Melbourne, Canberra, Brisbane, Perth); Norway (Canberra); Pakistan (Sydney); Peru (Canberra); Phillippines (Sydney, Melbourne); Poland (Sydney); Romania (Sydney); Singapore (Sydney); South Africa (Melbourne); Spain (Sydney); Sri Lanka (Sydney); Sweden (Sydney, Melbourne); United States of America (Sydney, Melbourne); U.S.S.R. (Canberra).

Collection and presentation of statistics

Source of data

Overseas trade statistics are compiled by the Australian Bureau of Statistics from documentation submitted by exporters or importers or their agents to the Bureau of Customs as required by the Customs Act.

Scope of the statistics

The statistics presented below are, with one exception, recorded on a *general trade* basis, i.e. total exports include both Australian produce and re-exports, and total imports comprise goods entered directly for domestic consumption together with goods imported into Customs warehouses. The statistics of import clearances, however, are recorded on a *special trade* basis, i.e., clearances comprise goods entered directly for domestic consumption together with goods cleared into the domestic market from Customs warehouses.

Exports of Australian produce are goods, materials or articles which have been produced, manufactured or partly manufactured in Australia, except goods which were originally imported and have undergone only repair or minor operations which leave them essentially unchanged.

Re-exports are goods, materials or articles originally imported which are exported either in the same condition in which they were imported or after undergoing repair or minor operations which leave them essentially unchanged. 'Minor operations' include blending, packaging, bottling, cleaning, sorting, husking or shelling.

Total exports are the aggregate of exports of Australian produce and re-exports.

The statistics are not confined to goods which are the subject of a commercial transaction; generally, all goods imported into or exported from Australia are recorded. Among the items included are exports and imports on government account, including defence equipment. For exports, the value recorded for each item includes the value of the outside package, i.e., the outside package or covering in which the goods were exported. For imports prior to 1 July 1976, outside packages were included as a non-commercial transaction under Statistical Item 931.00.21; since 1 July 1976, however, the recorded value of imports includes the value of the outside package and, therefore, separate details on the value of outside packages are no longer available.

The following are excluded from overseas trade statistics:

(*a*) direct transit trade, i.e., goods being transhipped or moved through Australia for purposes of transport only;

(*b*) bunkers and stores supplied to foreign owned vessels and aircraft prior to departure overseas (these are shown separately as *ships' stores* statistics on page 681);

(*c*) migrants' and passengers' effects for which customs entries are not required; and parcels post exports and imports of small value, for which customs entries are not required;

(*d*) certain materials for intergovernmental defence and similar projects for which customs entries are not required;

(*e*) vessels and aircraft engaged in the transport of passengers or goods between Australia and other countries;

(*f*) vessels and aircraft purchased for use on overseas routes and any subsequent sales made of such vessels and aircraft;

(*g*) fish and other sea products landed in Australia or abroad directly from the high seas by Australian vessels.

State

From 1 July 1978, *State* statistics for exports comprise State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. Previously *State* was the State in which the export document was lodged with the Bureau of Customs. Because of this change, figures from 1 July 1978 are not directly comparable with those for previous periods.

For imports the State is that in which the import entry was lodged with the Bureau of Customs. The port of lodgement of the import entry is not necessarily the port of discharge of the goods or of final consumption. Goods forwarded interstate after import, whether in containers or not, are recorded as being imported at the port of lodgement of the import entry.

Statistical period

Exports and imports are recorded statistically in the month in which the documentation is processed. Normally this is within a few days of shipment or discharge of cargo. However, delays may occur in the processing of documentation and in some cases the documentation may be cleared prior to discharge or shipment of cargo.

Valuation

Exports. Goods sold to overseas buyers before export are valued at the free on board (f.o.b.) Australian port of shipment equivalent of the actual price paid to the exporter. Goods shipped on consignment are valued at the f.o.b. Australian port of shipment equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which they are dispatched for sale. The value of outside packages is included.

Imports. The recorded value is the value for duty for Customs purposes. On 1 July 1976, Australia adopted the internationally recognised Brussels Definition of Value (BDV) on a free-on-board (f.o.b.) basis (i.e. charges and expenses involved in delivering the goods from the place of exportation to the place of introduction in Australia, are excluded). The value for duty is based on the normal price i.e., the price the goods would fetch at the time when duty becomes payable on a sale in the open market between a buyer and a seller independent of each other. In practice, the basis for valuation is generally taken to be the invoice price subject to certain safeguards and adjustments where necessary. Because of the change in the basis of valuation the recorded imports figures for 1976–77 are not comparable with previous years. For details of the method of valuation used prior to 1 July 1976, *see* Year Book No. 61, page 330.

Leasing arrangements. The recorded value of goods exported or imported under leasing arrangements is defined according to the valuation procedures shown above and is not the value of the lease receipts or payments. However, for balance of payments purposes, large items of equipment under lease are normally excluded from export and import figures, if the lease is for 12 months or less, and therefore, from the balance of trade.

Quantity data

Where quantities are shown they are generally expressed in terms of the normal unit of quantity used in the appropriate industry and as specified in the *Australian Export and Import Commodity Classifications* (1203.0, 1204.0) published by the ABS. Quantities are not tabulated in respect of statistical items for which there is no appropriate unit of quantity (e.g. a statistical item which covers a number of commodities that cannot be recorded under a uniform unit of quantity).

Merchandise and non-merchandise trade

Total trade is divided into merchandise and non-merchandise trade in accordance with international standards recommended by the United Nations. Merchandise trade is the equivalent of total exports or imports less certain items specified as non-merchandise. Complete descriptions of commodities classified as non-merchandise are contained in the *Australian Export and Import Commodity Classifications* (1203.0, 1204.0) published by the ABS.

Excess of exports or imports

The excess of the value of exports or imports does not represent the balance of trade. The balance of trade is the excess of exports or imports on a *balance of payments* basis. Details of the adjustments (relating to coverage, timing and valuation) made to total recorded exports and imports for balance of payments purposes, are set out in the annual publication *Balance of Payments, Australia* (5303.0). Some information may be found in the section relating to the balance of payments, page 687.

Country

A country is defined as a geographical entity which trades, or has the potential to trade, with Australia in accordance with Australian Customs provisions. External territories under Australian administration *are* treated separately whilst self-governing territories and dependent territories under the administration of other countries *may* be treated as individual countries in Australian overseas trade statistics. *Exports:* for exports, *country* refers to the country to which the goods were consigned at the time of export. Where the country of consignment is not determined at the time of export, goods are recorded as exported *For orders* and in those cases where it was found to be impossible to determine the destination, as *Destination unknown. Imports:* for imports, *country* refers to the country of origin of the goods which is defined as the country of production for Customs purposes.

Commodity classification

Exports and imports are classified according to the *Australian Export Commodity Classification* (AECC) and the *Australian Import Commodity Classification* (AICC) which, from 1 July 1978 have been based on the second revision of the *Standard International Trade Classification.*

Because of the changes to the AECC and AICC between 1977–78 and 1978–79, it has not been possible to derive exactly comparable figures for periods prior to 1 July 1978 and footnote (a) in the table on page 668 indicates where these statistics have been estimated.

Overseas trade statistics

Total overseas trade

The following table shows the total trade of Australia with overseas countries from 1973–74 to 1978–79. For details relating to years prior to 1973–74, *see* Year Book No. 61, page 333.

OVERSEAS TRADE
($m)

Year	*Exports*	*Imports*	*Excess of exports (+) or imports (–)*
1973–74	6,914	6,085	+ 829
1974–75	8,726	8,080	+ 646
1975–76	9,640	8,241	+1,399
1976–77	11,652	10,410	+1,241
1977–78	12,245	11,167	+1,078
1978–79	14,247	13,752	9ff496

Plate 47 below shows the overseas trade of Australia from 1961–62 to 1978–79.

OVERSEAS TRADE

1961–62 TO 1978–79

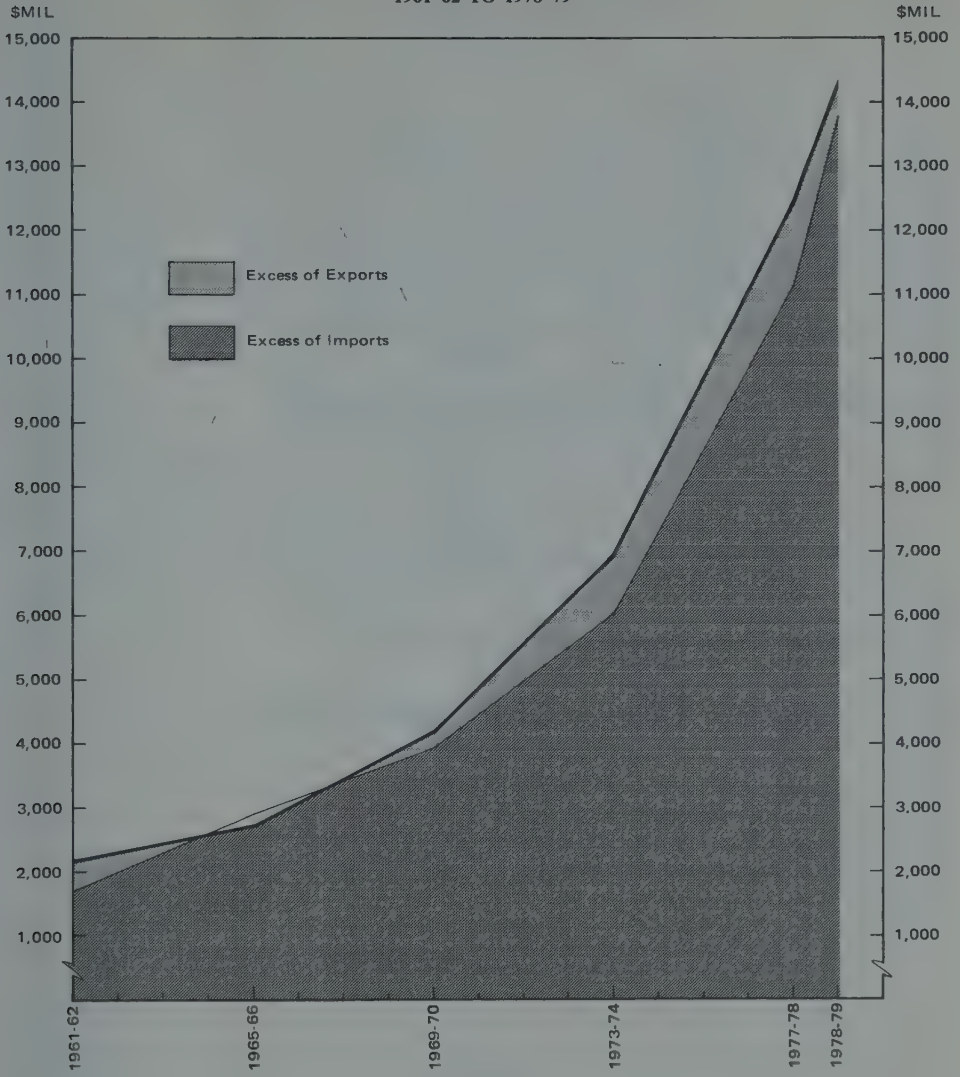


PLATE 47

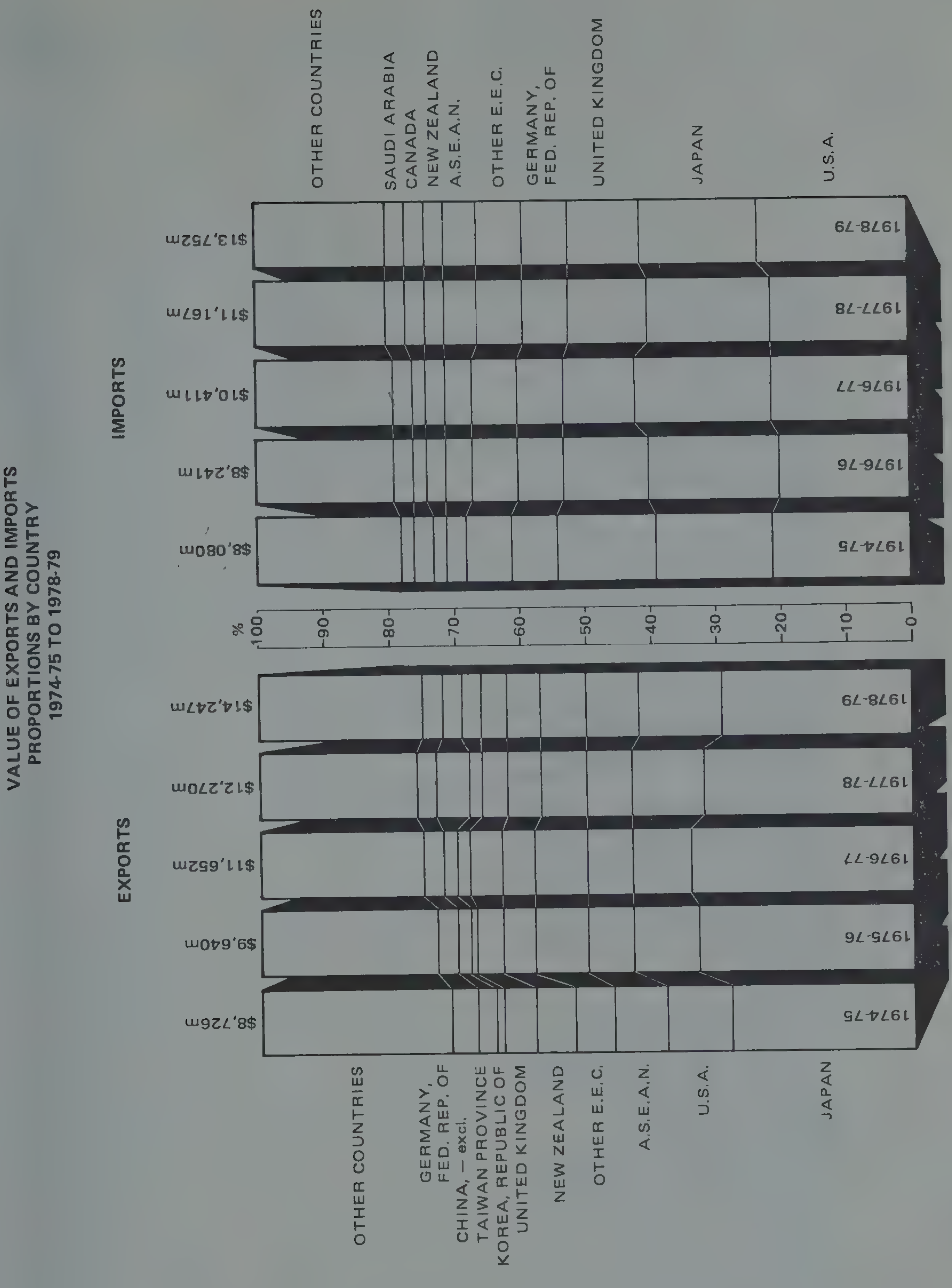
The following table shows particulars of merchandise and non-merchandise trade for recent years.

MERCHANDISE AND NON-MERCHANDISE TRADE
($'000)
EXPORTS

Year	*Merchandise*			*Non-merchandise*			
	Australian produce	*Re-exports*	*Total*	*Australian produce*	*Re-exports*	*Total*	*Total*
1973–74	6,618,034	140,141	6,758,175	89,021	67,200	156,220	6,914,395
1974–75	8,342,085	198,510	8,540,595	114,782	70,398	185,180	8,725,774
1975–76	9,235,698	163,768	9,399,466	103,910	136,207	240,117	9,639,583
1976–77	11,291,763	197,284	11,489,046	89,765	72,780	162,545	11,651,591
1977–78	11,770,386	254,724	12,025,110	127,516	92,505	220,021	12,245,130
1978–79	13,629,909	375,080	14,004,989	158,983	83,362	242,345	14,247,333

IMPORTS

Year	*Merchandise*	*Non-merchandise*	*Total*
1973–74	6,027,091	57,913	6,085,004
1974–75	7,960,683	119,170	8,079,853
1975–76	8,153,421	87,172	8,240,593
1976–77	10,330,210	80,435	10,410,645
1977–78	11,079,677	87,075	11,166,752
1978–79	13,641,823	109,736	13,751,559



VALUE OF EXPORTS AND IMPORTS
PROPORTIONS BY COUNTRY
1974-75 TO 1978-79

PLATE 48

Classified summary of Australian overseas trade

The following table shows exports and imports according to divisions of the *Australian Export and Import Commodity Classifications* (based on the *Standard International Trade Classification* Revision 2).

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS

($'000)

Division No.	*Description*	*Exports*		*Imports*	
		1977–78	*1978–79*	*1977–78*	*1978–79*
00	Live animals chiefly for food	104,427	120,136	16,805	17,560
01	Meat and meat preparations(*a*) . . .	1,118,852	1,710,599	2,784	4,086
02	Dairy products and birds' eggs(*a*) . .	198,993	219,697	21,569	25,329
03	Fish and fish preparations(*a*)	144,467	194,155	120,247	125,926
04	Cereals and cereal preparations . . .	1,350,367	1,180,345	14,955	14,878
05	Fruit and vegetables(*a*)	126,017	157,598	92,157	91,398
06	Sugar, preparations, honey(*a*)	547,693	463,706	10,248	13,590
07	Coffee, tea, cocoa and spices(*a*) . . .	21,738	21,350	220,324	205,885
08	Feeding stuff for animals(*a*)	48,899	50,366	16,061	14,141
09	Miscellaneous food preparations(*a*) . .	9,297	10,974	16,087	20,030
11	Beverages	18,161	21,898	59,573	71,357
12	Tobacco and tobacco manufactures . .	8,424	8,158	62,712	59,736
21	Hides, skins and furskins, raw	258,506	374,101	1,885	2,251
22	Oil seeds, oil nuts and oil kernels . . .	3,748	23,367	9,966	2,686
23	Crude rubber (including synthetic and reclaimed)	3,144	4,258	47,386	58,843
24	Wood, timber and cork(*a*)	92,692	108,701	125,959	155,897
25	Pulp and waste paper	504	622	57,578	70,970
26	Textile fibres and their waste(*a*) . . .	1,159,848	1,469,397	68,598	73,953
27	Crude fertilisers and minerals (except coal, petroleum and precious stones) . .	72,172	113,765	120,021	148,719
28	Metaliferous ores and metal scrap(*a*) .	2,331,155	2,479,018	20,222	19,313
29	Crude animal and vegetable materials n.e.s.(*a*)	34,609	36,699	26,246	30,922
32	Coal, coke and briquettes(*a*)	1,489,797	1,527,501	1,938	3,466
33	Petroleum and petroleum products(*a*) .	241,658	316,776	1,160,369	1,136,909
34	Petroleum gases and other gaseous hydrocarbons	(*b*)	(*b*)	174	228
41	Animal oils and fats	100,365	123,601	608	733
42	Fixed vegetable oils and fats	1,957	2,617	56,676	55,850
43	Animal and vegetable oils, fats and waxes, processed	6,179	7,871	8,583	9,290
51	Chemical elements and compounds(*a*) .	27,906	38,096	262,818	325,620
52	Mineral tar and crude chemicals from coal, petroleum and natural gas(*a*) . .	33,744	48,580	125,859	139,022
53	Dyeing, tanning and colouring materials	15,979	19,703	54,845	69,190
54	Medicinal and pharmaceutical products	47,239	65,194	111,517	130,771
55	Essential oils and perfume materials; toilet and cleansing preparations	18,344	24,744	51,467	68,404
56	Fertilisers, manufactured(*a*)	1,216	1,986	16,701	24,340
57	Explosives and pyrotechnic products . .	2,561	4,839	8,191	7,564
58	Plastic materials, regenerated cellulose and artificial resins(*a*)	32,141	51,449	230,316	280,925
59	Chemical materials, n.e.s.(*a*)	40,957	54,435	128,251	155,164
61	Leather, leather manufactures, n.e.s. and dressed furskins	26,670	46,632	23,571	36,222
62	Rubber manufactures, n.e.s.	6,544	6,549	145,776	155,539
63	Wood and cork manufactures (excluding furniture)(*a*)	3,691	5,192	52,247	64,193
64	Paper, paperboard and manufactures(*a*)	25,004	29,976	283,618	345,925
65	Textile yarn, fabrics, made-up articles(*a*)	68,344	89,955	681,042	833,257
66	Non-metallic mineral manufactures n.e.s.	64,405	115,959	242,534	273,825
67	Iron and steel	460,125	581,040	236,114	274,215
68	Non-ferrous metals(*a*)	578,223	790,849	48,310	66,221
69	Manufactures of metal, n.e.s.(*a*) . . .	100,285	120,205	289,716	358,778

For footnotes *see* end of table.

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS—*continued*

($'000)

Division No.	*Description*	*Exports*		*Imports*	
		1977–78	*1978–79*	*1977–78*	*1978–79*
71	Machinery, other than electric(*a*)	29,169	30,229	337,992	440,455
72	Electrical machinery and apparatus(*a*)	113,659	126,861	632,151	826,379
73	Transport equipment(*a*)	16,173	16,625	93,225	138,897
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	89,821	104,946	546,931	710,749
75	Office machines and automatic data processing equipment	33,013	41,001	378,168	489,231
76	Telecommunications and sound recording and reproducing apparatus and equipment	15,635	21,058	315,115	383,758
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	64,272	65,161	536,282	655,729
78	Road vehicles (including air cushion vehicles)	92,608	136,177	1,065,151	1,411,573
79	Other transport equipment	92,242	131,803	239,226	674,060
81	Sanitary, plumbing, heating and lighting fixtures and fittings	1,664	3,183	24,013	30,323
82	Furniture	2,797	5,202	59,296	70,734
83	Travel goods, handbags, etc.	404	1,119	32,221	42,091
84	Clothing and accessories; articles of knitted or crocheted fabric	10,374	13,784	267,921	280,877
85	Footwear	1,662	2,877	85,760	94,003
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	44,707	58,454	197,708	250,251
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	47,414	63,930	210,639	270,238
89	Miscellaneous manufactured articles	72,319	80,010	580,794	703,450
9A	Commodities and transactions not classified according to kind(*c*)	277,923	259,908	126,579	125,902
	Total merchandise	*12,052,904*	*14,004,989*	*11,081,795*	*13,641,823*
9B	Non-merchandise	216,626	242,345	84,758	109,736
	Total	**12,269,530**	**14,247,333**	**11,166,553**	**13,751,559**

(*a*) Due to changes in the classification from 1 July 1978, the 1977-78 statistics have been estimated, *see* page 663. (*b*) Included in Division 9A. (*c*) Includes Division 34 (Exports only).

Exports of major commodities

Commodity	Unit of quantity	Quantity			Value ($'000)		
		1976–77	1977–78	1978–79	1976–77	1977–78	1978–79
Aluminium and alloys, unworked	tonnes	75,533	75,921	81,026	60,084	69,270	82,219
Aluminium oxide and hydroxide	"	5,877,472	6,352,217	6,408,284	567,054	666,458	718,939
Barley	"	2,100,152	1,325,176	1,702,961	222,516	121,834	149,547
Butter	"	32,092	31,678	34,490	38,114	43,946	49,437
Cars, passenger motor, assembled and unassembled		–	–	–	36,808	32,115	54,032
Cheese	tonnes	52,498	44,089	51,503	56,248	55,497	68,974
Coal (anthracite, bituminous and sub-bituminous) (except briquettes)	"	34,431,726	37,861,714	38,870,813	1,282,900	1,481,774	1,518,806
Copper, ore and concentrates	"	143,012	105,833	131,661	50,960	28,365	43,845
Copper, refined, unworked	"	75,295	66,092	53,677	91,013	70,797	76,817
Crustaceans and molluscs (except canned or bottled)		–	–	–	118,551	132,121	180,851
Flour (wheaten) plain white	tonnes	155,867	128,649	60,022	26,166	21,483	11,961
Fruit, fresh and nuts, fresh or dried	"	72,979	91,540	155,176	22,436	32,472	93,226
Fruit, preserved and fruit preparations		–	–	–	48,191	45,540	50,051
Hides, bovine and equine (except calf and kip skins)	tonnes	174,675	186,370	183,340	119,423	128,210	223,883
Iron and steel ingots and other primary forms	"	1,886,752	1,603,580	1,241,230	220,640	202,321	193,911
Iron ore and concentrates (except roasted iron pyrites)	"	80,775,467	74,690,551	79,547,095	901,664	920,923	967,697
Iron, pig and cast	"	763,421	519,176	784,415	56,813	39,583	70,546
Lead and lead alloys (including silver-lead) unworked	"	296,569	305,272	322,278	165,488	193,865	260,084
Meat, fresh, chilled or frozen, beef—boneless	"	600,613	708,908	747,093	589,032	782,051	1,262,546
Meat, fresh, chilled or frozen—bovine animals, other	"	34,406	46,166	84,715	31,996	43,871	103,629
Meat, fresh, chilled or frozen—edible offals	"	55,667	61,469	66,932	37,482	48,796	77,707
Meat, fresh, chilled or frozen—sheep, lambs and goats	"	225,969	192,424	152,260	169,314	184,176	191,092
Milk and cream	"	184,886	114,214	100,209	92,209	84,518	84,255
Nickel and nickel alloys, unworked		n.p.	n.p.	n.p.	46,755	25,442	92,934
Nickel matte and speiss		n.p.	n.p.	n.p.	184,975	161,916	130,491
Petroleum products		–	–	–	190,336	223,820	307,022
Rice	tonnes	256,477	277,459	240,999	57,148	66,634	70,355
Skins, sheep and lamb, with wool on	"	89,959	76,445	73,220	109,541	106,369	109,987
Sorghum, unmilled	"	829,247	384,528	516,329	76,267	35,457	45,497
Sugar—from cane (except icing sugar)	"	2,555,712	2,477,896	1,839,822	637,498	536,640	448,155
Titanium and zirconium ore and concentrates (except beneficiated ilmenite)	"	1,866,049	1,695,686	1,702,024	137,876	110,706	111,686
Wheat (including spelt) and maslin, unmilled	"	7,945,143	10,948,926	6,800,564	863,456	1,011,078	794,612
Wood chips	"	3,233,602	3,131,652	3,349,170	79,497	82,421	93,592
Wool, carbonised—shorn and skin	"	12,065	10,533	11,988	35,905	34,003	43,137
Wool, carded or combed (tops and other)	"	11,693	9,973	11,164	43,615	39,759	49,464
Wool, greasy	"	675,476	493,605	566,319	1,276,600	993,476	1,227,710
Wool, washed and scoured—shorn, skin and boiled	"	41,132	35,366	46,298	118,029	112,603	153,188
Zinc, ore and concentrates	"	379,113	389,175	453,118	58,950	44,725	57,127
Zinc and zinc alloys, unworked	"	170,075	184,290	193,826	109,390	96,078	110,963
Total major commodities		–	–	–	*9,030,940*	*9,111,113*	*10,379,975*
Total Exports		–	–	–	**11,651,591**	**12,269,530**	**14,247,333**

Exports, by industrial group

The following table is designed to show fluctuations in exports of Australian produce dissected according to the main industry of the exports' origin, although any such classification is necessarily somewhat arbitrary.

EXPORTS BY INDUSTRIAL GROUP

	Value ($m)			*Proportion of total exports (per cent)*		
Industrial group	*1976–77*	*1977–78*	*1978–79*	*1976–77*	*1977–78*	*1978–79*
Agriculture, horticulture and viticulture—						
Unprocessed	1,324.1	1,341.6	1,226.8	11.4	10.9	8.6
Processed	813.1	713.6	637.0	7.0	5.8	4.5
Total	2,137.2	2,055.2	1,863.9	18.3	16.8	13.1
Pastoral—						
Unprocessed	2,413.2	2,415.8	3,359.3	20.7	19.7	23.6
Processed	368.4	397.1	504.6	3.2	3.2	3.5
Total	2,781.6	2,812.9	3,864.0	23.9	22.9	27.1
Dairy and farmyard—						
Unprocessed	16.3	15.3	20.7	0.1	0.1	0.1
Processed	188.1	194.3	211.3	1.6	1.6	1.5
Total	204.4	209.6	232.0	1.8	1.7	1.6
Mines and quarries (except gold)—						
Unprocessed	2,792.6	2,978.9	3,132.6	24.0	24.3	22.0
Processed	596.5	584.0	762.2	5.1	4.8	5.3
Total	3,389.1	3,563.0	3,894.7	29.1	29.0	27.3
Fisheries—						
Unprocessed	128.1	141.4	201.9	1.1	1.2	1.4
Processed	15.6	11.5	10.4	0.1	0.1	0.1
Total	143.8	152.8	212.2	1.2	1.2	1.5
Forestry—						
Unprocessed	0.3	0.4	0.6	0.0	0.0	0.0
Processed	12.2	12.7	18.6	0.1	0.1	0.1
Total	12.4	13.1	19.1	0.1	0.1	0.1
Total primary produce—						
Unprocessed	6,674.5	6,893.5	7,941.9	57.3	56.2	55.7
Processed	1,993.9	1,913.2	2,144.1	17.1	15.6	15.0
Total	*8,668.4*	*8,806.6*	*10,085.9*	*74.4*	*71.8*	*70.8*
Manufacturers	2,368.4	2,680.1	3,191.4	20.3	21.8	22.4
Refined petroleum oils	200.3	232.1	287.6	1.7	1.9	2.0
Gold	31.9	44.4	79.6	0.3	0.4	0.6
Unclassified	112.4	159.0	144.3	1.0	1.3	1.0
Total Australian produce	**11,381.5**	**11,922.2**	**13,788.9**	**97.7**	**97.2**	**96.8**
Re-exports	270.1	347.3	458.4	2.3	2.8	3.2
Total	11,651.6	12,269.5	14,247.3	100.0	100.0	100.0

The items enumerated indicate how arbitrary is the line necessarily drawn between primary produce and manufactures in any classification of this kind. The value of processed primary products exported includes some element of value added by the simpler processes of manufacture, while the value shown for manufactures exported necessarily includes the value of raw materials (primary produce) used in those manufactures.

Exports and imports by broad economic categories, 1978-79

The following table shows exports and imports of merchandise classified according to the nineteen categories of the United Nations' Classification, Broad Economic Categories (BEC). The BEC attempts to classify external trade statistics for the purposes of general economic analysis according to the main end use of the commodities traded.

	Exports		*Imports*	
Broad Economic Category	*$million*	*Proportion to total*	*$million*	*Proportion to total*
FOOD AND BEVERAGES	4,128.6	29.0	647.3	4.7
Primary	1,426.4	10.0	234.7	1.7
Mainly for industry	1,129.1	7.9	134.7	1.0
Mainly for household consumption	297.3	2.1	100.0	0.7
Processed	2,702.2	19.0	412.7	3.0
Mainly for industry	581.3	4.1	85.4	0.6
Mainly for household consumption	2,120.9	14.9	327.3	2.4
INDUSTRIAL SUPPLIES n.e.s.	6,826.5	47.9	3,837.6	27.9
Primary	3,777.7	26.5	322.3	2.3
Processed	3,048.9	21.4	3,515.3	25.6
FUELS AND LUBRICANTS	1,828.2	12.8	1,118.0	8.1
Primary	1,529.0	10.7	400.7	2.9
Processed	299.3	2.1	717.2	5.2
Motor spirit	47.9	0.3	90.8	0.7
Other	251.4	1.8	626.4	4.6
CAPITAL GOODS (except transport equipment), and parts and accessories thereof	443.0	3.1	3,433.1	25.0
Capital goods (except transport equipment)	266.6	1.9	2,473.6	18.0
Parts and accessories	176.3	1.2	959.5	7.0
TRANSPORT EQUIPMENT and parts and accessories thereof	290.5	2.0	2,297.2	16.7
Passenger motor cars (a)	14.2	0.1	352.9	2.6
Other	107.8	0.8	799.7	5.8
Industrial (a)	95.4	0.7	668.4	4.9
Non-industrial	12.4	0.1	131.3	1.0
Parts and accessories	168.5	1.2	1,144.7	8.3
CONSUMER GOODS n.e.s	234.8	1.6	2,184.7	15.9
Durable	56.5	0.4	754.5	5.5
Semi-durable	49.0	0.3	837.3	6.1
Non-durable	129.4	0.9	593.0	4.3
GOODS n.e.s.(b)	253.4	1.8	123.9	0.9
Total merchandise	*14,005.0*	*98.3*	*13,641.8*	*99.2*
Non-merchandise	242.3	1.7	109.7	0.8
Total	**14,247.3**	**100.0**	**13,751.6**	**100.0**

(*a*) Unassembled road motor vehicles are included with parts and accessories of transport equipment. (*b*) For exports, includes petroleum gases.

Direction of Overseas Trade

Exports and imports, by country of consignment or of origin

The following table shows the value and percentage of Australian exports and imports according to principal country of consignment or origin. The proportions of Australian exports and imports by country of origin or consignment are shown graphically on Plate 48 on page 667.

AUSTRALIAN EXPORTS AND IMPORTS, VALUE BY COUNTRY OR COUNTRY GROUP OF CONSIGNMENT OR ORIGIN

($'000)

	Exports			*Imports*		
Country	*1976–77*	*1977–78*	*1978–79*	*1976–77*	*1977–78*	*1978–79*
Argentina	27,336	41,014	45,649	3,679	4,602	3,781
Associations of South-East Asian Nations—						
Indonesia	180,508	196,259	217,478	50,174	84,096	99,239
Malaysia	224,636	214,796	330,606	113,434	120,454	152,563
Philippines	118,460	130,492	165,793	43,937	56,821	76,948
Singapore, Republic of	183,506	240,721	263,810	196,305	264,863	277,688
Thailand	65,044	74,497	121,758	27,219	30,623	35,438
Total ASEAN	*772,153*	*856,765*	*1,099,447*	*431,069*	*556,857*	*641,876*
Austria	4,463	9,122	5,675	30,012	34,030	41,582
Bahrain	29,313	38,031	40,899	68,348	75,328	96,404
Bangladesh	16,903	35,088	40,908	10,575	9,516	11,705
Brazil	10,387	22,089	20,318	44,455	48,245	67,926
Canada	280,352	280,191	272,021	292,206	276,392	383,486
China—excl. Taiwan Province	184,685	580,975	437,570	103,151	113,392	141,638
—Taiwan Province only	134,401	182,569	299,205	212,754	246,799	337,543
Egypt, Arab Republic of	144,970	187,635	193,971	121	115	92
European Economic Community—						
Belgium-Luxembourg	171,304	114,064	147,284	83,821	110,442	100,457
Denmark	6,234	7,223	16,966	33,846	40,409	64,881
France	282,358	273,100	296,429	170,764	179,714	249,666
Germany, Federal Republic of	395,916	398,866	430,926	715,366	746,394	1,031,518
Ireland	4,096	3,680	3,841	20,762	22,835	38,330
Italy	342,007	259,290	358,726	264,239	268,523	372,728
Netherlands	173,467	183,725	182,030	158,818	164,523	174,915
United Kingdom	540,361	482,094	572,417	1,136,204	1,280,991	1,492,404
Total EEC	*1,915,744*	*1,722,042*	*2,008,618*	*2,583,820*	*2,813,831*	*3,524,898*
Fiji	68,002	77,656	99,476	9,580	10,658	10,676
Finland	4,066	4,608	5,391	57,118	57,979	75,104
Hong Kong	189,157	215,484	321,331	254,281	265,309	331,559
India	201,342	69,807	111,549	70,586	89,655	104,019
Iran	150,310	179,397	117,468	103,657	82,645	38,932
Iraq	64,272	70,023	91,703	59,074	117,554	94,895
Japan	3,959,413	3,896,083	4,111,151	2,149,988	2,111,908	2,425,953
Korea, Republic of	190,205	265,100	448,566	95,818	120,258	135,693
Kuwait	47,631	64,525	75,899	197,211	194,715	159,569
New Zealand	579,734	584,984	750,286	319,556	360,108	424,850
Norway	48,444	37,817	31,208	23,161	24,171	35,471
Pakistan, Islamic Republic of	23,140	44,320	66,308	6,836	5,840	10,797
Papua New Guinea	189,912	237,178	293,954	80,277	73,842	69,491
Poland	105,879	65,351	93,471	7,969	8,116	10,822
Romania	35,064	44,899	37,887	4,975	12,734	5,110
Saudi Arabia	54,237	87,031	126,319	281,655	355,220	359,497
South Africa, Republic of	69,415	65,654	67,532	56,374	58,051	84,877
Spain	69,499	57,338	54,452	47,277	42,802	53,958
Sri Lanka	21,368	21,433	26,474	17,426	21,210	13,561
Sweden	57,869	46,247	58,579	203,958	175,944	232,929
Switzerland	10,521	9,793	12,110	127,186	131,627	178,648
United Arab Emirates	35,724	32,953	39,539	—	24,968	64,428
United States of America	1,009,381	1,289,068	1,781,779	2,161,662	2,319,855	3,225,619
U.S.S.R.	347,700	246,706	264,622	5,796	5,704	7,597
Yugoslavia	50,726	59,801	76,341	5,157	6,863	8,474
Other countries	527,650	515,593	571,012	280,644	304,334	332,981
'For Orders' and Country of origin or destination unknown	20,223	25,160	48,645	3,233	5,376	5,118
Total	**11,651,591**	**12,269,530**	**14,247,333**	**10,410,645**	**11,166,553**	**13,751,559**

Exports and Imports, by country of consignment and origin, and by description

The following table shows details of exports to and imports from principal countries, classified according to divisions of the Australian Export and Import Commodity Classifications.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1978-79

($'000)

Division No.	Description	*ASEAN*		*Belgium-Luxembourg*		*Canada*	
		Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
00	Live animals chiefly for food	11,307	–	1	–	529	35
01	Meat and meat preparations	37,236	19	1,805	1	71,516	26
02	Dairy products and birds' eggs	55,135	–	14	15	333	–
03	Fish and fish preparations	1,736	18,445	1,256	516	180	10,422
04	Cereal grains and cereal preparations	171,251	364	2,548	33	51	614
05	Fruit and vegetables	20,236	6,896	1,547	350	18,419	4,163
06	Sugar and sugar preparations and honey	69,303	97	73	20	42,893	713
07	Coffee, tea, cocoa, spices and manufactures thereof	7,689	49,223	–	43	56	33
08	Feeding-stuff for animals (except unmilled cereals)	9,826	5,236	923	490	–	6
09	Miscellaneous preparations chiefly for food	2,274	1,105	1	62	6	519
11	Beverages	1,575	29	5	11	1,926	126
12	Tobacco and tobacco manufactures	343	2,398	–	3	–	670
21	Hides, skins and furskins, raw	1,555	67	776	–	73	22
22	Oil-seeds, oil nuts and oil kernels	245	990	30	–	9	53
23	Crude rubber (including synthetic and reclaimed)	1,122	38,705	–	997	–	177
24	Wood, timber and cork	2	48,448	3,143	29	18	47,849
25	Pulp and waste paper	42	–	–	–	72	20,583
26	Textile fibres and their waste	16,759	824	43,755	44	2,685	4,951
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	21,123	645	71	502	61	23,112
28	Metalliferous ores and metal scrap	91,619	973	23,648	79	104,139	8,470
29	Crude animal and vegetable materials, n.e.s.	2,107	1,932	561	21	962	63
32	Coal, coke and briquettes	2,797	–	10,443	–	–	205
33	Petroleum and petroleum products	33,270	223,947	–	538	34	1,108
34	Petroleum gases and other gaseous hydrocarbons	(*a*)	–	(*a*)	–	(*a*)	1
41	Animal oils and fats	9,372	–	43	–	70	–
42	Fixed vegetable oils and fats	109	26,419	3	5	–	2,159
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	2,533	2,084	10	4	109	79
51	Chemical elements and compounds	5,269	529	91	6,854	5	4,437
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	16,572	564	8	3,244	280	3,235
53	Dyeing, tanning and colouring materials	7,531	188	1	1,218	92	502
54	Medicinal and pharmaceutical products	9,799	752	507	1,277	1,177	602
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	5,247	1,015	1	517	30	559
56	Fertilisers, manufactured	84	9	–	319	–	5,205
57	Explosives and pyrotechnic products	2,994	–	–	–	–	50
58	Plastic materials, regenerated cellulose and artificial resins	16,955	3,964	3	3,854	79	11,396
59	Chemical materials and products, n.e.s.	6,068	265	–	944	874	1,346
61	Leather, leather manufactures, n.e.s., and dressed furskins	1,312	497	8	304	264	93
62	Rubber manufactures, n.e.s.	1,114	3,640	58	872	6	1,041
63	Wood and cork manufactures (except furniture)	923	12,422	3	44	41	1,234
64	Paper, paperboard and manufactures thereof	8,936	1,132	15	3,877	24	38,628
65	Textile yarn, fabrics, made-up articles and related products	3,608	32,831	6	6,566	5,303	24,396
66	Non-metallic mineral manufactures, n.e.s.	21,797	7,710	2,803	10,852	4,542	2,441
67	Iron and steel	106,033	3,714	15,562	2,426	4,088	1,563
68	Non-ferrous metals	108,205	2,736	33,945	649	643	6,872
69	Manufactures of metals, n.e.s.	21,186	7,726	357	2,520	1,734	9,994
71	Machinery (except electric)	3,864	1,548	63	358	117	4,389
72	Electric machinery, apparatus and appliances	23,194	2,128	1,596	12,768	735	16,903
73	Transport equipment	5,406	1,054	5	622	159	648
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	20,018	11,970	163	10,371	1,370	11,083
75	Office machines and automatic data processing equipment	2,970	1,325	90	3,044	217	12,296
76	Telecommunications and sound recording and reproducing apparatus and equipment	3,025	9,996	309	6,485	114	1,121
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	8,381	6,911	144	4,178	195	8,548
78	Road vehicles (including air cushion vehicles)	15,161	10,512	182	511	618	7,369
79	Other transport equipment	37,789	23,148	–	409	417	59,640
81	Sanitary, plumbing, heating and lighting fixtures and fittings	287	531	12	57	7	767
82	Furniture	555	9,523	2	56	67	1,221
83	Travel goods, handbags and similar articles	190	2,313	–	7	3	46
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	1,395	17,890	5	76	64	1,049

For footnotes *see* end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1978–79

($'000)

Division No.	Description	*ASEAN*		*Belgium-Luxembourg*		*Canada*	
		Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
85	Footwear	239	5,748	–	–	3	100
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	5,614	885	164	1,016	872	2,554
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	14,266	1,696	105	6,728	540	3,673
89	Miscellaneous manufactured articles	9,538	23,237	140	2,971	865	9,662
9A	Commodities and transactions of merchandise trade, not elsewhere classified(*b*)	6,924	1,305	159	496	1,106	999
	Total merchandise	*1,073,015*	*640,263*	*147,164*	*100,253*	*270,792*	*381,821*
9B	Commodities and transactions not included in merchandise trade	26,638	1,613	120	204	1,229	1,666
	Grand total	**1,099,653**	**641,876**	**147,284**	**100,457**	**272,021**	**383,486**

(*a*) Included in Division 9A. (*b*) Includes Division 34 (Exports only).

Div. No.	*China-excl. Taiwan Province*		*China-Taiwan Province only*		*EEC*		*France*		*Germany, Federal Republic of*	
	Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
00	–	–	110	–	34	4,673	–	–	–	3
01	54	79	15,083	–	91,106	1,516	13,050	123	5,695	28
02	1	–	16,209	9	533	11,600	–	1,098	107	1,627
03	90	6,339	380	1,898	7,059	16,068	2,235	83	579	942
04	142,341	508	39,187	124	22,511	5,855	79	72	13,406	1,004
05	–	4,644	386	7,281	55,484	9,900	4,779	276	18,190	919
06	14,849	84	5	84	2,342	5,040	44	670	361	474
07	–	4,168	–	112	71	31,052	–	256	–	2,122
08	–	–	5,867	74	1,782	2,383	1	438	2	1,061
09	30	440	101	635	196	6,560	3	1,015	3	705
11	19	45	18	6	1,786	58,533	147	9,933	31	6,251
12	–	–	–	–	1	15,286	–	103	–	72
21	923	258	10,526	–	207,092	392	75,934	1	37,277	–
22	–	214	62	–	10,681	30	–	–	1,273	–
23	–	–	370	109	2	4,635	–	1,191	–	407
24	–	7	1,066	62	10,993	728	1,039	30	628	66
25	–	–	106	–	–	9	–	4	–	–
26	18,213	924	44,898	657	435,453	10,012	85,958	57	104,507	2,315
27	–	1,284	4,464	11	16,136	6,142	988	92	6,794	469
28	94,849	508	30,697	–	354,759	1,202	25,622	113	169,233	399
29	–	2,642	781	515	13,331	7,249	347	1,214	4,104	602
32	–	111	50,718	–	231,517	810	59,270	–	9,366	728
33	–	4,338	28	173	9	40,619	–	98	–	1,855
34	(*a*)	–	(*a*)	–	(*a*)	83	(*a*)	68	(*a*)	2
41	30,931	–	7,348	–	8,675	78	1,354	–	12	1
42	–	1,263	16	4	1,344	1,148	–	52	528	173
43	153	2	571	–	625	4,755	40	7	92	277
51	–	2,175	417	1,131	4,058	102,041	455	7,950	104	28,272
52	827	1,693	3,960	640	3,138	45,545	2	3,072	2,423	23,594
53	24	69	481	8	597	35,503	20	1,757	130	13,649
54	44	844	839	415	10,819	71,452	36	2,448	996	18,599
55	10	401	148	99	323	31,339	15	12,688	58	5,415
56	–	–	–	–	–	2,303	–	55	–	989
57	–	605	–	263	5	4,009	–	124	1	218
58	5	71	323	8,746	226	117,309	28	7,602	51	30,711
59	38	2,681	156	31	1,436	63,184	42	4,617	373	9,505
61	408	355	768	1,736	24,915	8,964	291	485	1,101	851
62	–	89	5	5,324	656	50,712	16	8,809	290	8,268
63	–	453	6	22,256	517	5,008	6	378	327	697
64	–	758	90	660	306	55,956	50	3,208	42	15,233
65	4,475	59,362	5,806	46,428	4,958	151,529	26	11,234	2,906	27,823
66	–	2,751	2,174	8,747	10,058	111,944	198	8,656	3 207	17,661
67	107,540	79	13,771	1,097	26,291	43,884	6	5,550	3,363	11,397
68	19,213	61	27,906	382	334,253	25,809	14,747	418	27,526	10,537
69	1,613	1,160	732	20,177	5,907	120,546	512	4,077	902	40,435
71	–	287	545	4,137	1,513	187,873	40	21,448	385	57,965
72	464	9	2,595	3,954	11,574	313,928	719	12,750	1,365	124,131
73	92	219	74	6,933	832	50,407	44	3,138	303	22,675
74	100	91	436	6,644	7,416	261,003	390	8,663	1,465	86,959
75	–	33	69	1,067	5,511	100,806	1,167	3,979	715	28,191
76	–	–	11	17,082	2,371	64,170	82	14,311	563	27,284
77	6	868	217	7,928	8,609	230,443	475	17,836	1,927	76,534
78	8	19	491	8,841	5,090	363,382	937	25,472	898	168,171
79	–	–	1,860	1,188	4,610	74,290	250	6,394	100	21,774
81	–	60	3	2,326	586	12,296	2	406	31	3,117
82	–	1,526	1	7,320	313	22.890	14	190	92	3,237

For footnotes *see* end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1978–79—*continued*

($'000)

Div. No.	*China-excl. Taiwan Province*		*China-Taiwan Province only*		*EEC*		*France*		*Germany, Federal Republic of*	
	Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
83	7	443	4	10,103	43	5,291	1	242	4	237
84	1	23,163	19	58,326	582	36,241	79	4,565	222	2,201
85	–	5,770	–	27,111	17	23,257	–	2,859	4	749
87	118	131	320	1,209	13,713	86,372	3,415	4,716	767	32,701
88	4	703	89	3,845	4,356	76,954	121	6,149	1,149	27,568
89	3	6,783	305	39,562	9,629	242,964	748	12,260	1,515	31,041
9A(*b*)	–	1	1,290	29	8,950	56,969	197	1,953	1,207	21,083
	437,454	*141,573*	*294,910*	*337,501*	*1,987,700*	*3,502,933*	*296,020*	*247,451*	*428,700*	*1,021,970*
9B	116	65	4,295	41	20,917	21,965	409	2,215	2,226	9,548
	437,570	**141,638**	**299,205**	**337,543**	**2,008,618**	**3,524,898**	**296,429**	**249,666**	**430,926**	**1,031,518**

(*a*) Included in Division 9A. (*b*) Includes Division 34 (Exports only).

Division No.	Description	*Hong Kong*		*Indonesia*		*Iran*	
		Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
00	Live animals chiefly for food	6,720	–	1,647	–	26,307	–
01	Meat and meat preparations	20,886	2	1,148	–	7,666	–
02	Dairy products and birds' eggs	12,842	–	12,242	–	128	–
03	Fish and fish preparations	7,666	1,560	33	626	–	–
04	Cereal grains and cereal preparations	21,471	592	78,078	5	14,250	–
05	Fruit and vegetables	5,086	778	1,727	155	31	1,429
06	Sugar and sugar preparations and honey	165	164	314	–	890	–
07	Coffee, tea, cocoa, spices and manufactures thereof	1,570	131	116	35,108	–	6
08	Feeding-stuff for animals (except unmilled cereals)	1,640	13	296	–	349	–
09	Miscellaneous preparations chiefly for food	1,189	1,358	588	16	17	–
11	Beverages	1,039	12	401	–	1	–
12	Tobacco and tobacco manufactures	270	1	317	61	–	4
21	Hides, skins and furskins, raw	6,557	2	6	67	9	–
22	Oil-seeds, oil nuts and oil kernels	334	222	–	434	–	–
23	Crude rubber (including synthetic and reclaimed)	135	–	505	5,413	–	–
24	Wood, timber and cork	48	8	–	1,606	–	–
25	Pulp and waste paper	–	–	10	–	–	–
26	Textile fibres and their waste	6,432	197	363	–	1,216	–
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	484	314	2,131	21	53	549
28	Metalliferous ores and metal scrap	411	82	1,683	–	4,803	–
29	Crude animal and vegetable materials, n.e.s.	961	545	130	109	–	7
32	Coal, coke and briquettes	–	–	241	–	–	–
33	Petroleum and petroleum products	1,038	144	9,570	49,334	–	33,726
34	Petroleum gases and other gaseous hydrocarbons	(*a*)	–	(*a*)	–	(*a*)	–
41	Animal oils and fats	389	–	545	–	116	–
42	Fixed vegetable oils and fats	14	240	12	–	–	–
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	244	45	1,138	–	–	–
51	Chemical elements and compounds	3,712	272	390	72	–	–
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	744	73	6,065	16	262	–
53	Dyeing, tanning and colouring materials	768	37	2,332	–	85	10
54	Medicinal and pharmaceutical products	3,378	410	931	403	477	–
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	2,617	1,200	436	295	–	–
56	Fertilisers, manufactured	4	–	3	–	–	–
57	Explosives and pyrotechnic products	1	50	2,900	–	–	–
58	Plastic materials, regenerated cellulose and artificial resins	4,498	820	5,357	23	–	–
59	Chemical materials and products, n.e.s.	992	475	1,942	–	105	–
61	Leather, leather manufactures, n.e.s., and dressed furskins	3,119	596	13	71	–	2
62	Rubber manufactures, n.e.s.	47	240	592	278	–	–
63	Wood and cork manufactures (except furniture)	193	276	5	29	–	–
64	Paper, paperboard and manufactures thereof	1,957	1,274	888	–	–	–
65	Textile yarn, fabrics, made-up articles and related products	6,361	79,553	678	384	3,461	2,602
66	Non-metallic mineral manufactures, n.e.s.	20,268	3,481	1,182	212	485	3
67	Iron and steel	35,346	4	25,142	12	37,250	–
68	Non-ferrous metals	16,131	597	27,781	–	7,704	–
69	Manufactures of metal, n.e.s.	7,841	13,318	2,662	10	264	79

For footnotes *see* end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1978–79—*continued*

($'000)

Division No.	Description	*Hong Kong*		*Indonesia*		*Iran*	
		Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
71	Machinery (except electric)	478	2,049	528	–	5	–
72	Electric machinery, apparatus and appliances	3,226	1,026	2,352	1	3,333	–
73	Transport equipment	295	82	985	–	58	–
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	2,513	3,187	3,947	–	79	39
75	Office machines and automatic data processing equipment	3,302	2,330	25	–	20	–
76	Telecommunications and sound recording and reproducing apparatus and equipment	3,194	14,528	112	7	–	–
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	2,948	22,736	1,319	11	3	–
78	Road vehicles (including air cushion vehicles)	1,347	1,080	3,739	–	19	–
79	Other transport equipment	375	638	2,632	1,053	113	–
81	Sanitary, plumbing, heating and lighting fixtures and fittings	119	3,201	47	1	–	–
82	Furniture	336	2,307	215	96	–	–
83	Travel goods, handbags and similar articles	126	14,217	2	47	–	–
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	617	65,853	318	2,120	1	2
85	Footwear, gaiters, and similar articles and parts therefor	3	3,070	120	770	–	3
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	847	997	603	–	194	2
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s. watches and clocks	15,960	15,992	249	1	21	–
89	Miscellaneous manufactured articles, n.e.s.	6,136	67,916	498	252	25	10
9A	Commodities and transactions of merchandise trade, not elsewhere classified (*b*)	4,620	722	2,328	12	6,743	–
	Total merchandise	*252,014*	*331,015*	*212,557*	*99,130*	*116,541*	*38,473*
9B	Commodities and transactions not included in merchandise trade	69,318	544	5,129	109	927	460
	Grand total	**321,331**	**331,559**	**217,686**	**99,239**	**117,468**	**38,932**

(*a*) Included in Division 9A. (*b*) Includes Division 34 (Exports only).

Division No.	*Italy*		*Japan*		*Korea, Republic of*		*Kuwait*		*Malaysia*	
	Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
00	7	–	3,777	–	1,982	–	22,313	–	4,419	–
01	1,548	489	295,043	36	81,682	–	15,396	–	9,837	–
02	9	2,479	40,828	1	741	–	3,699	–	13,790	–
03	1,748	310	111,190	14,619	37	2,583	205	–	499	11,431
04	3,435	577	252,707	621	3,906	16	26,615	–	50,380	60
05	472	3,739	14,071	1,120	15	623	1,113	–	4,054	378
06	39	143	226,140	2,168	47,936	–	126	–	59,028	31
07	–	912	8,137	1,505	–	5	–	–	5,063	9,231
08	–	89	20,860	494	10	–	1,363	–	1,981	483
09	1	351	203	1,312	4	130	93	–	694	233
11	2	5,601	523	337	8	7	224	–	270	1
12	–	14	–	5	–	2,430	–	–	–	–
21	82,274	1	49,299	–	15,348	–	–	–	90	–
22	3,781	17	371	36	185	–	–	–	41	2
23	–	1	57	2,279	–	–	–	–	129	27,760
24	25	10	92,906	80	–	–	–	–	–	29,042
25	–	–	–	333	–	–	–	–	–	–
26	129,387	229	426,064	9,635	76,792	19	–	–	15,199	150
27	842	776	49,369	14,380	5,140	62	–	–	1,223	–
28	32,631	–	1,023,967	923	57,889	–	–	31	73,185	41
29	2,712	334	7,364	1,225	1,098	365	61	–	975	265
32	45,818	–	1,082,861	548	73,261	–	–	–	76	–
33	–	34,328	11,705	1,508	–	–	–	159,539	3,829	7,244
34	(*a*)	–	(*a*)	14	(*a*)	–	(*a*)	–	(*a*)	–
41	184	–	19,390	–	16,281	–	4	–	2,043	–
42	–	623	7	64	1	223	28	–	10	14,892
43	–	2	1,081	180	53	118	8	–	489	1,804
51	5	4,997	9,001	53,127	1,005	2,127	–	–	343	349
52	11	610	3,234	23,534	734	102	–	–	1,808	60
53	1	868	219	4,687	1,179	40	–	–	889	46
54	78	2,316	2,549	4,917	950	535	90	–	3,740	268
55	8	719	1,980	868	372	106	26	–	1,645	63
56	–	3	3	144	–	–	–	–	75	–

For footnotes *see* end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1978–79—*continued*

($'000)

Division No.	*Italy*		*Japan*		*Korea, Republic of*		*Kuwait*		*Malaysia*	
	Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
57	–	8	–	62	1	–	–	–	–	–
58	23	4,662	371	47,002	1,085	435	7	–	2,219	788
59	2	514	8,287	8,495	641	46	33	–	734	61
61	21,897	1,506	788	902	190	912	–	–	222	23
62	4	4,834	75	52,308	18	5,805	–	–	88	2,403
63	3	1,266	81	1,015	6	1,514	1	–	80	5,204
64	3	7,019	263	32,502	–	1,912	248	–	4,078	199
65	1,127	20,045	14,780	163,765	1,463	28,699	1	–	891	13,730
66	102	27,744	26,102	49,394	534	4,298	173	–	2,414	231
67	6,664	901	29,913	147,881	33,616	17,073	192	–	13,705	16
68	18,312	2,216	72,987	5,729	19,928	16	236	–	17,344	2,017
69	299	8,816	7,424	60,256	74	6,089	514	–	4,404	2,875
71	23	4,449	387	57,714	68	1,137	31	–	862	15
72	1,121	37,522	2,053	87,431	261	161	23	–	4,352	448
73	16	6,700	324	37,568	54	105	250	–	896	25
74	816	27,866	2,916	104,775	131	374	633	–	3,060	8,689
75	324	21,379	1,068	113,541	175	283	–	–	872	1
76	2	527	701	208,640	16	6,974	73	–	1,605	1,523
77	187	28,803	822	161,677	349	1,758	982	–	2,376	1,055
78	890	26,836	1,149	727,662	1,952	1,001	251	–	2,840	136
79	159	1,579	12,624	37,406	119	939	12	–	912	27
81	13	2,849	2	3,053	–	66	4	–	14	155
82	43	10,809	115	2,650	–	1,373	18	–	50	1,275
83	2	3,275	132	848	4	3,524	–	–	22	114
84	12	8,743	1,320	5,836	–	22,275	18	–	142	2,869
85	1	14,981	3	905	–	4,820	–	–	15	2,203
87	573	2,463	2,249	29,271	578	536	22	–	956	152
88	210	4,712	1,451	61,025	47	1,421	74	–	706	134
89	247	26,651	2,738	69,258	26	12,552	168	–	1,219	1,044
9A (*b*)	391	492	160,523	1,115	4	76	3	–	2,341	620
	358,486	*370,706*	*4,106,551*	*2,420,386*	*447,950*	*135,664*	*75,334*	–	*325,221*	*151,864*
9B	239	2,023	4,599	5,567	615	29	565	–	5,385	699
	358,726	**372,728**	**4,111,151**	**2,425,953**	**488,566**	**135,693**	**75,899**	**159,569**	**330,606**	**152,563**

(*a*) Included in Division 9A. (*b*) Includes Division 34 (Exports only).

Division No.	Description	*Netherlands*		*New Zealand*		*Papua New Guinea*	
		Exports	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
00	Live animals chiefly for food	–	–	2,164	11,722	344	–
01	Meat and meat preparations	10,775	–	920	1,780	36,599	–
02	Dairy products and birds' eggs	–	1,878	280	6,455	4,516	–
03	Fish and fish preparations	639	1,390	1,754	11,001	306	967
04	Cereal grains and cereal preparations	23	1,038	6,795	3,659	32,867	–
05	Fruit and vegetables	2,740	1,595	12,368	14,404	3,032	9
06	Sugar and sugar preparations and honey	2	318	21,978	2,349	7,225	–
07	Coffee, tea, cocoa, spices and manufactures thereof	5	15,448	411	611	1,283	52,349
08	Feeding-stuff for animals (except unmilled cereals)	740	10	348	65	1,863	–
09	Miscellaneous preparations chiefly for food	–	539	520	2,096	3,364	–
11	Beverages	10	294	1,675	257	2,740	154
12	Tobacco and tobacco manufactures	–	11,269	137	85	4,744	1,077
21	Hides, skins and furskins, raw	1,928	–	2,568	80	3	–
22	Oil-seeds, oil nuts and oil kernels	5,452	4	871	97	44	–
23	Crude rubber (including synthetic and reclaimed)	–	595	2,245	109	23	3,776
24	Wood, timber and cork	1,228	19	1,344	15,620	2	1,971
25	Pulp and waste paper	–	5	279	31,724	14	–
26	Textile fibres and their waste	27,403	1,647	1,861	22,965	1,373	1
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	685	201	2,684	576	534	–
28	Metalliferous ores and metal scrap	28,296	119	43,041	2,979	37	257
29	Crude animal and vegetable materials, n.e.s.	1,633	324	1,843	3,976	192	32
32	Coal, coke and briquettes	46,362	26	267	653	5	–
33	Petroleum and petroleum products	–	1,019	137,138	76	18,664	739
34	Petroleum gases and other gaseous hydrocarbons	(a)	12	(a)	–	(a)	–
41	Animal oils and fats	5,997	3	20	65	2,605	–
42	Fixed vegetable oils and fats	552	220	409	45	470	510
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	–	3,004	175	53	624	–
51	Chemical elements and compounds	1,943	8,709	12,514	331	634	–
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	596	763	7,997	145	769	–
53	Dyeing, tanning and colouring materials	106	1,483	5,894	2,517	1,242	–
54	Medicinal and pharmaceutical products	1,067	2,558	27,688	1,962	2,007	1

For footnotes *see* end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1978–79—*continued*

($'000)

Division No.	Description	*Netherlands* Exports	*Netherlands* Imports	*New Zealand* Exports	*New Zealand* Imports	*Papua New Guinea* Exports	*Papua New Guinea* Imports
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	12	1,011	5,110	5,180	6,078	–
56	Fertilisers, manufactured	–	709	1,063	281	671	–
57	Explosives and pyrotechnic products	–	–	1,226	–	463	–
58	Plastic materials, regenerated cellulose and artificial resins	9	9,761	22,530	5,389	2,148	9
59	Chemical materials and products, n.e.s.	70	6,809	5,041	782	2,104	–
61	Leather, leather manufactures, n.e.s., and dressed furskins	512	47	1,589	7,047	83	–
62	Rubber manufactures, n.e.s.	–	863	1,549	1,402	1,498	–
63	Wood and cork manufactures (except furniture)	3	199	1,602	6,688	699	3,784
64	Paper, paperboard and manufactures thereof	4	5,337	6,590	45,506	7,481	12
65	Textile yarn, fabrics, made-up articles and related products	78	6,494	24,694	46,651	2,511	1
66	Non-metallic mineral manufactures, n.e.s.	360	1,982	9,121	6,759	4,032	182
67	Iron and steel	264	484	60,880	2,051	14,081	–
68	Non-ferrous metals	34,283	130	48,911	4,536	1,711	7
69	Manufactures of metal, n.e.s.	461	2,174	21,849	16,605	13,267	123
71	Machinery (except electric)	21	2,519	7,621	857	5,076	491
72	Electric machinery, apparatus and appliances	785	13,648	14,538	9,835	14,573	18
73	Transport equipment	21	375	2,809	1,795	1,240	–
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	215	5,058	27,332	13,073	10,957	26
75	Office machines and automatic data processing equipment	1,106	16,568	10,409	335	4,205	14
76	Telecommunications and sound recording and reproducing apparatus and equipment	397	3,368	2,469	1,141	3,634	13
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	525	18,803	16,938	28,584	9,937	13
78	Road vehicles (including air cushion vehicles)	58	426	72,030	18,656	7,690	15
79	Other transport equipment	101	8,963	12,895	1,893	6,700	126
81	Sanitary, plumbing, heating and lighting fixtures and fittings	–	768	287	731	1,212	1
82	Furniture	–	343	1,046	11,550	1,926	6
83	Travel goods, handbags and similar articles	1	103	312	1,363	115	–
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	31	145	2,884	19,035	2,661	–
85	Footwear, gaiters, and similar articles and parts therefor	1	10	1,410	2,542	959	–
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	2,247	3,653	9,186	2,544	2,309	31
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	47	2,467	12,303	1,810	1,921	5
89	Miscellaneous manufactured articles, n.e.s.	218	5,718	24,360	18,669	7,054	106
9A	Commodities and transactions of merchandise trade, not elsewhere classified (*b*)	161	1,094	6,699	776	23,201	2,052
	Total merchandise	*180,176*	*174,520*	*735,471*	*422,523*	*290,323*	*68,878*
9B	Commodities and transactions not included in merchandise trade	1,854	394	14,815	2,327	3,630	613
	Grand total	**182,030**	**174,915**	**750,286**	**424,850**	**293,954**	**69,491**

(*a*) Included in Division 9A. (*b*) Includes Division 34 (Exports only).

Div. No.	*Saudi Arabia* Exports	*Saudi Arabia* Imports	*Singapore Republic of* Exports	*Singapore Republic of* Imports	*United Kingdom* Export	*United Kingdom* Imports	*United States of America* Exports	*United States of America* Imports	*U.S.S.R.* Exports	*U.S.S.R.* Imports
00	26,829	–	4,411	–	25	4,529	1,850	1,123	–	–
01	32,953	–	16,339	16	57,390	872	816,298	33	13,673	–
02	27,860	–	7,088	–	397	660	7,424	891	2,313	–
03	273	–	1,030	1,774	282	11,000	60,986	14,419	–	839
04	25,532	–	25,905	211	2,991	2,551	875	1,104	15,261	–
05	1,283	–	13,978	207	24,880	3,015	4,573	15,548	1	–
06	528	–	9,816	2	1,784	2,989	24,311	1,233	–	–
07	25	–	2,487	4,760	65	12,258	63	4,681	–	3
08	289	–	3,207	87	117	212	918	2,068	–	–
09	387	–	549	657	188	2,813	932	4,189	–	–
11	128	–	701	8	1,583	28,584	2,351	3,800	5	–
12	–	–	25	14	–	3,562	8	26,757	–	–
21	–	–	18	–	6,973	165	2,237	1,216	185	92
22	–	–	127	340	134	9	350	441	–	–
23	–	–	5	5,314	2	1,444	33	8,544	–	–

For footnotes *see* end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1978-79—*continued*

($'000)

Div. No.	*Saudi Arabia*		*Singapore Republic of*		*United Kingdom*		*United States of America*		*U.S.S.R.*	
	Exports	*Imports*	*Exports*	*Imports*	*Export*	*Imports*	*Exports*	*Imports*	*Exports*	*Imports*
24	–	–	2	5,009	4,695	385	565	37,880	–	–
25	–	–	–	–	–	–	110	10,145	–	–
26	1	–	56	23	44,383	5,720	39,423	13,700	190,044	–
27	–	–	2,745	106	5,674	1,833	2,822	15,435	–	53
28	813	–	3,803	46	75,256	493	434,952	1,573	36,494	–
29	129	–	558	1,073	3,737	2,671	3,557	8,179	39	17
32	–	–	5	–	51,112	27	14,901	237	–	–
33	2	359,497	14,490	167,367	9	2,779	42,122	27,766	–	–
34	(*a*)	–	(*a*)	–	(*a*)	1	(*a*)	87	(*a*)	–
41	–	–	1,416	–	1,085	73	583	355	–	–
42	5	–	4	1,965	261	47	–	10,280	–	–
43	7	–	99	279	484	519	501	1,755	–	–
51	1	–	370	56	1,446	40,135	144	109,772	–	13
52	30	–	1,852	52	98	13,966	4,522	50,497	742	1,786
53	13	–	2,454	142	338	16,440	84	14,969	–	–
54	5	–	1,742	77	7,813	33,768	636	26,315	–	48
55	64	–	1,955	656	206	10,795	362	21,625	–	4
56	1	–	4	9	–	227	–	13,482	–	–
57	–	–	91	–	4	3,659	65	2,230	–	–
58	65	–	3,636	2,791	111	60,494	318	76,522	–	7
59	10	–	1,854	109	943	39,942	25,119	72,043	–	–
61	4	–	689	25	1,090	5,735	366	1,508	–	3
62	–	–	263	384	288	25,250	233	27,506	–	4
63	–	–	805	2,487	175	1,725	323	2,143	–	6
64	539	–	3,100	748	168	21,144	752	73,637	–	–
65	50	–	1,054	9,217	806	77,034	999	96,046	–	1,135
66	68	–	5,949	2,574	3,361	42,600	8,464	31,165	–	10
67	85	–	16,183	1,812	428	23,095	28,331	20,825	–	–
68	177	–	15,846	1	204,961	11,845	84,060	13,636	–	–
69	2,060	–	8,467	2,266	3,204	59,757	10,891	71,445	–	5
71	4	–	1,468	1,521	949	100,495	3,442	148,295	6	26
72	1,157	–	6,466	1,003	5,594	107,303	13,621	334,160	12	1,035
73	358	–	2,245	996	411	15,942	1,126	21,296	–	447
74	445	–	7,356	2,205	4,262	113,402	10,540	252,729	–	154
75	130	–	1,108	1,323	1,823	27,162	9,299	228,611	3	–
76	184	–	994	8,362	1,001	10,957	1,595	44,329	–	–
77	1,595	–	3,490	4,032	5,276	80,055	6,066	140,240	–	26
78	363	–	3,476	279	1,972	141,830	8,096	204,976	–	67
79	–	–	33,052	21,911	3,746	20,207	31,976	454,963	–	–
81	3	–	148	359	526	4,968	43	3,593	–	24
82	17	–	238	3,906	160	7,720	339	5,339	–	28
83	–	–	95	305	35	1,267	48	1,126	–	–
84	159	–	781	1,341	232	20,280	2,568	5,104	–	–
85	–	–	101	503	11	4,604	27	1,032	–	–
87	78	–	2,142	505	5,583	36,939	11,551	109,682	11	160
88	98	–	6,095	897	2,616	27,169	6,436	79,412	1	316
89	161	–	5,573	14,388	6,561	156,305	8,572	181,596	–	642
9A(*b*)	1,303	–	864	589	6,803	31,580	15,803	53,169	–	185
	126,270	–	*250.869*	*277,089*	*556,511*	*1,485,007*	*1,759,530*	*3,208,460*	*258,792*	*7,131*
9B	49	–	12,941	599	15,906	7,396	22,249	17,159	5,831	466
	126,319	**359,497**	**263,810**	**277,688**	**572,417**	**1,492,404**	**1,781,779**	**3,225,619**	**264,622**	**7,597**

(*a*) Included in Division 9A. (*b*) Includes Division 34 (Exports only).

NOTE: For description of Div. No. *see* page 678–9.

Ships' and aircraft stores

Ships' and aircraft stores loaded on overseas ships and aircraft are excluded from exports. The value of these stores is shown in the table below.

STORES LOADED ON BOARD OVERSEAS VESSELS AND AIRCRAFT, 1976–77 TO 1978–79

($'000)

Stores	*1976–77*	*1977–78*	*1978–79*
Cigarettes, cigars and tobacco	1,749	1,536	1,659
Fuel, lubricating oil and lubricants	189,688	203,566	226,587
Foodstuffs for human consumption—			
Meats	2,210	3,306	3,182
Sugar	18	9	15
Milk and cream, preserved	62	84	90
Butter	94	167	107
Cheese	69	108	121
Eggs in shell	231	368	284
Seafoods	627	823	642
Prepared grains	200	465	364
Vegetables	699	1,324	1,281
Fruit	334	442	362
Tea	12	21	18
Other	1,691	2,315	1,338
Fodder	192	218	1,223
Alcoholic beverages	3,708	4,029	4,281
Other ships' stores	8,275	10,207	8,651
Total	**209,857**	**228,985**	**250,206**

Overseas trade by State

The following table shows the value of exports and imports for each State and Territory.

EXPORTS AND IMPORTS BY STATE, 1978–79

($'000)

State(a)	*Exports*	*Imports*
New South Wales	3,772,411	5,759,568
Victoria	2,702,452	4,693,538
Queensland	3,284,745	1,027,772
South Australia	926,222	865,863
Western Australia	2,826,592	1,160,984
Tasmania	513,148	140,652
Northern Territory	217,784	96,644
Australian Capital Territory	3,980	6,536
Grand Total	**14,247,333**	**13,751,559**

(*a*) For imports: State in which entry was lodged. The State of lodgement is not necessarily the State in which the goods were discharged or consumed. For exports: State is State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. Because of this change in the basis on which statistics by State are derived, figures from 1 July 1978 are not directly comparable with those for previous periods, *see* 662.

Total import clearances, dutiable clearances, and customs duties collected

The following table shows the value of total import clearances, total dutiable clearances, and the customs duties collected, together with the ratio of total dutiable clearances to total clearances.

TOTAL IMPORT CLEARANCES, DUTIABLE CLEARANCES, AND CUSTOMS DUTIES

		1973–74	*1974–75*	*1975–76*	*1976–77(a)*	*1977–78*	*1978–79*
Total import clearances	$'000	6,015,035	7,976,280	8,174,645	10,304,756	11,122,041	13,667,307
Total dutiable clearances	"	2,329,826	3,029,747	3,224,861	4,022,198	3,978,180	4,435,424
Total customs duties collected	"	621,864	857,386	950,150	1,172,424	1,145,181	1,378,856
Ratio of dutiable clearances to total clearance	per cent	38.7	38.0	39.4	39.0	35.8	32.5
Ratio of duties collected to dutiable clearances	"	26.7	28.3	29.5	29.1	28.8	31.1

(*a*) Clearance figures from 1976–77 are not comparable with previous years because of the change in the basis of valuation (*see* page 662).

Excise

Although excise goods have no immediate bearing on overseas trade, the rate of excise duty is in some cases related to the import duty on similar goods. Moreover, as the Excise Acts are administered by the Bureau of Customs, it is convenient to publish here the quantities of Australian produce on which excise duty has been paid. Particulars of customs and excise revenue are shown in Chapter 22, Public Finance. The following table shows the quantities of spirits, beer, tobacco, etc. on which excise duty was paid in Australia.

QUANTITIES OF PRINCIPAL EXCISABLE GOODS ON WHICH EXCISE DUTY WAS PAID: AUSTRALIA

Article	*1976–77*	*1977–78*	*1978–79*
	'000 litre	'000 litre	'000 litre
Beer	1,891,229	1,923,387	1,887,313
	'000 l al	'000 l al	'000 l al
Spirits—			
Brandy	2,755	2,845	2,384
Gin	731	695	558
Whisky	671	633	441
Rum	1,529	1,750	1,635
Liqueurs	298	296	268
Vodka	760	827	656
Flavoured spirituous liquors	243	263	211
Other	10	101	9
Total spirits (potable)	6,998	7,410	6,163
	'000 kg	'000 kg	'000 kg
Tobacco	2,097	1,944	1,841
Cigars	93	82	80
Cigarettes—machine-made	27,846	27,867	26,670
	'000 litre	'000 litre	'000 litre
Petrol—			
Aviation gasoline (by-law)(*a*)	56,381	64,108	76,529
Aviation gasoline—Other(*a*)	111	–	6,538
Gasoline	13,774,739	14,214,250	14,793,982
Total petrol	13,831,231	14,278,358	14,877,050
Mineral turpentine	–	–	–
Aviation turbine kerosene(*a*)	942,638	1,019,474	1,089,716
Other kerosene	5,000	–	–
Diesel fuel (as defined by by-law)	1,552,161	1,674,390	1,915,269
	doz. packs '000	doz. packs '000	doz. packs '000
Playing cards	127	132	140
	'000	'000	'000
Cigarette papers and tubes	3,706,945	3,150,190	3,323,630
	matches '000	matches '000	matches '000
Matches	26,655,026	25,739,447	23,495,320
	'000 tonnes	'000 tonnes	'000 tonnes
Coal	63,982	68,398	69,508
	'000 doz containers	'000 doz containers	'000 doz containers
Canned fruit	6,752	7,030	6,824

(*a*) Includes supplies to Commonwealth Government on which excise was paid.

FOREIGN INVESTMENT

Surveys of foreign investment have been conducted since 1947–48 to obtain particulars of certain types of private capital flows to and from Australia. The surveys, when supplemented by other information, provide statistics of foreign investment in enterprises in Australia and in Australian public authority securities repayable in Australian currency, as well as statistics of Australian investment in enterprises abroad and in foreign government securities. Particulars of investment income from most of those classes of investment are also obtained from the surveys.

Certain types of foreign investment are not included in the statistics which follow. Investment in real estate (except when made through companies) and loans between Australian individuals and non-resident individuals are not covered. Nor are changes in short-term liabilities between exporters and importers in Australia and overseas covered, except in so far as they arise from exports and imports between branches or subsidiaries and their home offices or parent enterprises. In this case they are included in the figures of investment in branches or subsidiaries. Non-resident deposits in, and foreign borrowings by, Australian trading banks are excluded from foreign investment statistics and are included instead in the non-official monetary item in the balance of payments capital account.

In the tables which classify investment in Australia according to country of origin, the investment is shown as an inflow from the country which is the immediate source of the capital. Income payable on foreign investment is classified on a similar basis, i.e. it is classified to the country to which it is directly payable.

Remittances between Australia and foreign residents by Australian life insurance enterprises are regarded as capital transactions made to bring assets located in foreign countries into line with commitments in those countries, and are included as a flow of investment between Australia and foreign residents. Similar considerations apply for foreign life insurance enterprises with branches in Australia.

The following are explanatory notes relating to some of the terms used in the tables:

Branches. Offices in Australia of enterprises incorporated abroad *or* offices in separate foreign countries of enterprises incorporated in Australia. For the purposes of the survey, branches are included if the value of net liabilities to head office exceeds $A10,000 or if the annual net profit or loss exceeds $A10,000. Australian branches of foreign enterprises *include* other Australian offices of foreign enterprises where a branch register is maintained in Australia, but *exclude* enterprises in Australia which are incorporated abroad but which have no business operations in Australia other than an account with a bank in Australia. Foreign branches of enterprises in Australia *exclude* foreign enterprises which are incorporated in Australia but which have no business operations abroad other than an account with a foreign bank. However, the short-term assets represented by the bank accounts abroad are included as Australian portfolio investment abroad for those companies included in the surveys of foreign investment.

Enterprises. Incorporated and unincorporated businesses and other organisations including public enterprises, but *excluding* enterprises which have no business operations in a country other than an account with a bank in that country.

Direct investment. All investment in branches and subsidiaries by direct investors i.e. head offices of branches, direct shareholders in subsidiaries and other related enterprises.

Foreign residents. Any individual, enterprise or other organisation domiciled in a country other than Australia. Includes Norfolk Island and other external territories of Australia. Foreign branches and subsidiaries of enterprises in Australia are also regarded as being foreign residents.

Portfolio investment and institutional loans. Investment in enterprises other than direct investment, i.e. investment other than investment by related enterprises in branches and subsidiaries. Includes both corporate equities and borrowings.

Subsidiaries. An *Australian subsidiary* of a foreign enterprise is an enterprise in Australia, other than a branch, in which:

(*a*) a single foreign resident (individual or enterprise) or a group of related enterprises in the one foreign country holds 25 per cent or more of the equity, or, if this condition does not apply,

(*b*) residents of one foreign country combined hold 50 per cent or more of the equity,

together with other enterprises in Australia in which the Australian subsidiary holds, directly or indirectly, more than 50 per cent of the equity.

A *foreign subsidiary* of an enterprise in Australia is a foreign enterprise other than a branch, in which an enterprise in Australia holds 25 per cent or more of the equity. In principal, foreign enterprises in which the combined Australian shareholding is 50 per cent or more would also be included, but it is not practicable to ascertain the total investment by Australian shareholders in individual foreign enterprises.

Undistributed profits of subsidiaries. Equity of direct investors in the net earnings of an enterprise during the year, less tax payable on those earnings and less dividends declared during the year whether relating to earnings of the same year or not. Net earnings are, in general, based on income for taxation purposes. However, certain deductions allowable for taxation purposes (e.g. mining and petroleum exploration expenditure, Export Market Development Allowance, Investment Allowance for Manufacturing Plant, previous year's losses, etc.) are not deducted in calculating net earnings. Undistributed profits of Australian subsidiaries also include undistributed income accruing to the subsidiary from related enterprises in Australia.

Unremitted profits of branches. Net earnings (after tax) during the year, less remittances of earnings to the head office during the year, irrespective of the year to which the earnings relate. Net earnings of branches are, in general, similar to those for subsidiaries. Also included is undistributed income accruing to the branch of other enterprises related to the branch.

More details on foreign investment in Australia and Australian investment abroad are contained in the annual publication *Foreign Investment, Australia* (5305.0).

Foreign investment in enterprises in Australia and income payable on foreign investment in enterprises in Australia

The inflow of foreign investment in enterprises in Australia in recent years is shown in the next three tables.

INFLOW OF FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA BY TYPE OF INVESTMENT

($ million)

	Direct investment						
	Undistributed income		*Other direct investment*				
Year	*Branches*	*Subsidiaries*	*Branch liabilities to head office*	*Other (a)*	*Total*	*Portfolio investment and institutional loans*	*Total*
1972–73	41	258	42	50	391	102	494
1973–74	21	402	–	189	612	–134	478
1974–75	15	228	16	393	652	242	894
1975–76	177	434	11	–42	579	206	785
1976–77	41	619	49	365	1,074	488	1,562
1977–78	113	524	59	313	1,008	268	1,276

(*a*) Includes for subsidiaries: corporate equities, intercompany indebtedness and borrowings; and for branches: borrowings from related foreign enterprises other than the head office.

Minus sign (–) denotes withdrawal.

INFLOW OF FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY COUNTRY

($ million)

	EEC						
Year	*United Kingdom*	*Other(a)*	*U.S.A.*	*Canada*	*Japan*	*Other countries*	*Total*
1972–73	121	51	89	6	51	176	494
1973–74	96	83	189	18	77	14	478
1074–75	115	157	355	17	67	183	894
1975–76	279	12	364	15	101	14	785
1976–77	360	267	624	70	175	66	1,562
1977–78	368	63	621	–4	191	38	1,276

(*a*) Includes Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands.

Minus sign (–) denotes withdrawal.

INFLOW OF DIRECT FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY INDUSTRY GROUP

($ million)

Year	*Primary production(a)*	*Manufacturing*	*Other industries*	*Total*
1972–73	69	84	239	391
1973–74	64	247	300	612
1974–75	65	285	303	652
1975–76	26	231	323	579
1976–77	–53	485	641	1,074
1977–78	57	360	591	1,008

(*a*) Includes agriculture, forestry, fishing, mining, quarrying and oil exploration and production.

Minus sign (–) denotes withdrawal.

The next three tables show investment income payable abroad by enterprises in Australia.

INCOME PAYABLE ON FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY TYPE OF INCOME

($ million)

Year	*Income payable abroad on direct investment*					*Income payable abroad on portfolio investment and institutional loans*	*Total*
		Distributed income					
	Undistributed income	*Remitted profits of branches*	*Dividends payable*	*Interest payable*	*Total*		
1972–73	300	92	203	107	702	150	852
1973–74	424	104	208	110	847	163	1,010
1974–75	243	152	204	133	732	207	939
1975–76	611	157	248	130	1,146	242	1,388
1976–77	660	290	248	123	1,321	254	1,575
1977–78	636	318	286	112	1,352	290	1,642

INCOME PAYABLE ON FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA BY COUNTRY

($ million)

Year	*EEC*		*U.S.A.*	*Canada*	*Japan*	*Other countries*	*Total*
	United Kingdom	*Other(a)*					
1972–73	337	15	403	27	18	52	852
1973–74	383	14	491	27	19	76	1,010
1974–75	292	1	528	18	22	78	939
1975–76	483	53	648	47	43	113	1,388
1976–77	523	55	766	38	77	116	1,575
1977–78	598	63	800	–1	34	148	1,642

(*a*) Includes Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands. Minus sign (–) denotes withdrawal.

INCOME PAYABLE ON DIRECT FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY INDUSTRY GROUP

($ million)

Year	*Primary production(a)*	*Manu-facturing*	*Other industries*	*Total*
1972–73	184	281	237	702
1973–74	272	321	253	847
1974–75	303	272	158	732
1975–76	308	416	421	1,146
1976–77	341	546	434	1,321
1977–78	372	474	506	1,352

(*a*) Includes agriculture, forestry, fishing, mining, quarrying and oil exploration and production.

Australian investment in and investment income receivable from foreign enterprises

The outflow of Australian investment in enterprises in recent years and a classification by country in which the capital was invested are shown in the following two tables.

OUTFLOW OF AUSTRALIAN INVESTMENT IN FOREIGN ENTERPRISES, BY TYPE OF INVESTMENT
($ million)

	Direct investment						
	Undistributed income		*Other direct investment*				
Year	*Branches*	*Subsidiaries*	*Branch liabilities to head office*	*Other*	*Total*	*Portfolio investment and institutional loans(a)*	*Total*
1972–73 .	–10	83	10	13	97	15	112
1973–74 .	–3	103	55	78	232	18	250
1974–75 .	–12	40	16	63	106	5	111
1975–76 .	2	62	10	85	160	20	180
1976–77 .	–1	100	24	109	233	3	235
1977–78 .	–19	104	27	58	170	8	178

(*a*) Prior to April 1975, excludes portfolio investment in Papua New Guinea other than some long-term trade credit and short-term assets; between April and December 1975, includes transactions with Papua New Guinea where amounts involved are denominated in Kina; from January 1976, includes all portfolio investment in Papua New Guinea.

Minus sign (–) denotes repatriation of investment.

OUTFLOW OF AUSTRALIAN INVESTMENT IN FOREIGN ENTERPRISES, BY COUNTRY
($ million)

	EEC							
Year	*U.K.*	*Other(a)*	*New Zealand*	*U.S.A. and Canada*	*Papua New Guinea(b)*	*ASEAN(c)*	*Other countries*	*Total*
1972–73 .	–3	21	24	20	(*d*)	7	(*e*)42	112
1973–74 .	41	29	25	39	(*d*)	24	(*e*)91	250
1974–75 .	2	–1	51	9	–6	38	20	111
1975–76 .	30	8	11	43	50	11	27	180
1976–77 .	31	9	57	53	26	19	41	235
1977–78 .	68	–4	44	1	25	23	21	178

(*a*) Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands. (*b*) *See* footnote (*a*) in preceding table. (*c*) Indonesia, Malaysia, Philippines, Singapore and Thailand. (*d*) Not available for publication. (*e*) Includes Papua New Guinea.

Minus sign (–) denotes repatriation of investment.

The next two tables show income receivable by Australian enterprises from direct investment in foreign enterprises, and the countries from which it is receivable.

INCOME RECEIVABLE ON AUSTRALIAN DIRECT INVESTMENT IN FOREIGN ENTERPRISES, BY TYPE OF INCOME(*a*)
($ million)

			Distributed income			
	Undistributed income					
Year	*Branches*	*Subsidiaries*	*Remitted profits of branches*	*Dividends of subsidiaries*	*Interest*	*Total*
1972–73 .	–10	83	16	34	2	125
1973–74 .	–3	103	18	68	1	187
1974–75 .	–12	40	23	60	3	113
1975–76 .	2	62	22	46	5	137
1976–77 .	–1	100	24	60	7	190
1977–78 .	–19	104	33	109	3	231

(*a*) Details are not available of income receivable in Australia on either portfolio investment and institutional loans or on Australian holdings of foreign government securities.

Minus sign (–) denotes withdrawal.

INCOME RECEIVABLE ON AUSTRALIAN DIRECT INVESTMENT IN FOREIGN ENTERPRISES, BY COUNTRIES(*a*)

($ million)

Year	*EEC* *U.K.*	*Other(b)*	*New Zealand*	*U.S.A. and Canada*	*Papua New Guinea*	*ASEAN*	*Other countries*	*Total*
1972–73	19	–	21	3	(*c*)	4	(*d*)78	125
1973–74	25	–	35	2	(*c*)	6	(*d*)118	187
1974–75	17	–7	29	4	(*c*)	9	(*d*)61	113
1975–76	24	2	34	7	(*c*)	9	(*d*)61	137
1976–77	34	–3	54	8	39	17	42	190
1977–78	30	–6	59	3	58	21	66	231

(*a*) Details are not available of income receivable in Australia on either portfolio investment and institutional loans or on Australian holdings of foreign government securites. (*b*) Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands. (*c*) Not available for publication—included in 'Other countries'. (*d*) Includes Papua New Guinea.
Minus sign (–) denotes withdrawal.

BALANCE OF PAYMENTS

Broadly speaking the balance of payments is a statistical statement designed to provide a systematic record of economic transactions between residents of a country and residents of the rest of the world (non-residents). Such a record is essential to the examination of influences which external factors have on the domestic economy. These estimates have always assumed a particular importance in Australia as the Australian economy is subject to fairly large fluctuations in export income and is also affected in important respects by variations in the level of foreign investment and the demand for imports.

Detailed estimates and a description of the various items included are provided in the annual publication *Balance of Payments, Australia* (5303.0). Somewhat less detailed estimates of the principal current account items and capital movements are published in the quarterly publication *Balance of Payments, Australia* (5302.0), and summary statement of the main balance of payments aggregates, *Balance of Payments, Australia* (5301.0), is issued monthly.

Transactions are recorded in the balance of payments when ownership of goods changes, services are rendered, income (interest and dividends) becomes payable, transfer payments are made and ownership of financial assets changes. The Australian balance of payments is divided into a current account and a capital account, the former covering transactions in goods, services and property income and unrequited transfers and the latter covering transactions in financial claims on and liabilities to the rest of the world.

The balance of payments is a double entry accounting statement based on rules of debit and credit so that, conceptually, credits should exactly offset debits. However, errors and omissions in the estimates and timing discrepancies in the recording of transactions and their offsets occur. It is therefore necessary, to preserve the identity between the two accounts, to introduce a balancing item which, although it is included in the capital account, reflects errors, omissions and timing discrepancies in both the current and capital accounts.

Current account

The current account is sub-divided into transactions in goods and invisibles. Transactions in goods consist of exports and imports, the difference between the two being the balance of trade. Exports and imports comprise all movable goods which undergo a change of ownership between residents and non-residents. Recorded trade statistics based on customs entries provide the basic source of data; however these have to be adjusted in respect of valuation, timing and coverage to bring them to a balance of payments basis. In brief, these adjustments include deducting those goods from recorded trade which, although they have crossed the customs frontier, have not changed ownership, and adding to the recorded trade figures those goods which have changed ownership but have not crossed the customs frontier. Goods crossing the customs frontier without changing ownership for the purpose of sale at a later date (e.g. consignment goods) are removed from trade data and added back later when they are sold. Recorded imports, which are recorded at the value for duty for customs purposes are also adjusted to reflect the transactions value required for the balance of payments.

Invisibles transactions include the sale and purchase of services, property income receivable from and payable to overseas, and transfer payments, both government and private. In most cases, credit entries represent the receipt of foreign exchange and debit entries the payment of foreign exchange, although there are some exceptions to this general rule: undistributed income, for example, is included as an imputed transaction in both the current and capital accounts, and transfers in kind (e.g. aid in the form of food shipments) also occur which do not result in movements of foreign exchange. The item gold production (net) also requires an explanation. Prior to 1976, this item measured the net value of gold exported (excluded from visible trade items exports and imports) plus the value of newly won gold monetised i.e. retained by the Reserve Bank as part of Australia's official reserve assets. Following the removal of restrictions on the private ownership of, and transactions in gold, this separate item has been discontinued and non-monetary gold transactions have been included in merchandise trade as from 1 January 1976. After this date, all monetisation or demonetisation of gold by the Reserve Bank will, if they occur, be covered in the monetary sector of the capital account.

Sources of data for the invisibles items vary. They include ABS surveys (transportation, defence expenditure, remitted profits, dividends and interest), data from trading banks on foreign exchange transactions (travel, miscellaneous services, royalties and copyrights, most private transfers), and data from government departments (government overseas receipts and expenditure, interest on public authority debt, foreign aid, social security cash benefits).

The balance on current account gives the net result of the trade and invisibles transactions and is derived by summing the balance of trade, invisible credits and invisible debits.

Capital account

The capital account records those transactions which represent changes in financial assets or liabilities between residents of Australia and the rest of the world. They include government loan-raisings overseas, investment by foreign residents in Australian enterprises, the investment by Australian residents in foreign enterprises, and changes in the level of Australia's foreign reserves.

In the capital account, transactions are recorded on a net basis. Credit entries represent a net increase in non-residents' assets in Australia or a net decrease in Australian assets overseas, while debit entries represent a net decrease in non-residents assets in Australia or a net increase in Australian assets overseas.

Capital account transactions are classified primarily by the sector of the Australian party to the transaction, the primary distinction being between the non-monetary and monetary sectors, the former being sub-classified into 'Government' and 'Private' and the latter into 'Non-official' and 'Official'. Government sector transactions include transactions by Commonwealth, State and local governments with the exception of government banks (which are classified in the monetary sector) and certain public trading enterprises. Private sector transactions include transactions by all resident enterprises and individuals except that deposits with and loans to Australian monetary institutions are excluded. The monetary sector covers transactions involving Australian banking institutions with separate classification of official and non-official transactions.

The government sector covers transactions by non-residents in government securities domiciled overseas and in Australia, and the changes in Australia's assets with and liabilities to international development institutions such as the International Bank for Reconstruction and Development and the Asian Development Bank. Also included are other government transactions which are largely a reflection of the net effect on the balance of payments of leads and lags between payments made overseas for items of equipment for the defence services and government shipping and airline enterprises and the delivery of the equipment. In periods where payments exceed the value of deliveries, a net debit results; in periods where the value of deliveries exceeds payments, a net credit is recorded.

In the private sector, overseas investment in Australian enterprises, Australian investment abroad, and trade credit transactions not elsewhere included are the broad categories of capital flows separately distinguished. The figures for trade credit not elsewhere included represent mainly short term changes in export and import indebtedness of Australian marketing authorities and other private enterprises.

The monetary sector covers the transactions of official monetary institutions which consist of changes in official reserve assets (gold, special drawing rights in the IMF, reserve position in the IMF and foreign exchange) the allocation of special drawing rights (SDRs) and other transactions of the Reserve Bank including those with the IMF. The item allocation of SDRs (item 19.3) is the counterpart to the change in official reserve assets due to the allocation to Australia of SDRs by the IMF. Such an entry is necessary in this case because without it there would be no corresponding credit to the increase in assets (debit) and the allocation would be reflected in an offsetting movement in the balancing item. Of the transactions of non-official monetary institutions the changes in liabilities incurred on account of overseas borrowings and in the foreign currency balances held as assets are the most significant.

The balancing item includes errors and omissions and timing differences, referred to on page 687.

BALANCE OF PAYMENTS
($ million)

	1975–76		*1976–77*		*1977–78*	
	Credit	*Debit*	*Credit*	*Debit*	*Credit*	*Debit*
CURRENT ACCOUNT						
Goods—						
1 Exports f.o.b.(*a*)	9,408	–	11,404	–	12,042	–
2 Imports f.o.b.(*a*)	–	7,924	–	10,345	–	11,165
Balance of trade	*1,484*	–	*1,059*	–	*877*	–
Invisibles—						
3 Gold production (net)(*b*)	23	–	–	–	–	–
4 Transportation—						
4.1 Freight on imports(*c*)	–	802	–	1,034	–	1,076
4.2 Expenditure of overseas carriers	693	–	813	–	814	–
4.3 Other transportation	348	804	425	964	502	1,059
5 Travel	233	509	278	510	325	551
6 Government—						
6.1 Australian government—						
6.11 Defence expenditure	–	57	–	62	–	67
6.12 Other expenditure	–	118	–	127	–	156
6.13 Services to non-residents	23	–	24	–	23	–
6.2 Foreign governments expenditure	55	–	64	–	70	–
7 Miscellaneous—						
7.1 Business expenses	69	140	52	109	59	187
7.2 Other	67	114	42	146	96	212
8 Property income—						
8.1 Direct investment—						
8.11 Undistributed	64	611	99	660	85	637
8.12 Distributed	73	585	91	661	146	716
8.2 Interest on government loans	–	85	–	114	–	162
8.3 Royalties and copyrights	8	75	13	57	10	81
8.4 Other	186	251	154	269	113	314
9 Government transfers—						
9.1 Papua New Guinea	–	239	–	244	–	237
9.2 Other foreign aid	–	132	–	145	–	179
9.3 Social security cash benefits	–	18	–	26	–	36
10 Private transfers—						
10.1 Migrants' funds	149	115	133	102	132	97
10.2 Social security cash benefits	29	–	29	–	28	–
10.3 Other	181	198	114	188	242	270
Balance on current account	–	**1,126**	–	**2,027**	–	**2,515**

For footnotes *see* end of table.

BALANCE OF PAYMENTS—*continued*
($ million)

	1975–76		*1976–77*		*1977–78*	
	Credit	*Debit*	*Credit*	*Debit*	*Credit*	*Debit*
CAPITAL ACCOUNT (NET)						
Government—						
11 Government securities—						
11.1 Domiciled overseas	126	–	357	–	1,612	–
11.2 Domiciled in Australia	–	79	17	–	35	–
12 International development institutions	–	25	–	35	–	38
13 Other government transactions	–	150	–	188	–	91
Private—						
14 Overseas investment in Australian companies—						
14.1 Direct investment—						
14.11 Undistributed income	611	–	660	–	637	–
14.12 Other	–	31	414	–	371	–
14.2 Portfolio investment and institutional loans	206	–	488	–	268	–
15 Australian investment overseas—						
15.1 Direct investment—						
15.11 Undistributed income	–	64	–	99	–	85
15.12 Other	–	96	–	134	–	85
15.2 Portfolio investment	–	21	–	10	–	3
16 Other private investment	1	–	13	–	1	2
17 Trade credit n.e.i.—						
17.1 Marketing authorities	120	–	111	–	–	208
17.2 Other	–	10	132	–	–	76
Monetary—						
18 Non-official monetary institutions—						
18.1 Changes in liabilities—						
18.11 Borrowing overseas	–	27	18	–	63	–
18.12 Other liabilities	–	7	41	–	–	53
18.2 Changes in assets—						
18.21 Advances to non-residents	–	9	15	–	3	–
18.22 Foreign currency balances	19	–	–	44	–	19
19 Official monetary institutions—						
19.1 Changes in liabilities—						
19.11 Use of IMF credit	–	–	309	–	–	90
19.12 Other liabilities	–	28	–	10	158	–
19.2 Changes in official reserve assets	1,053	–	190	–	474	–
19.3 Allocation of SDR's	–	–	–	–	–	–
19.4 Other transactions	–	4	2	–	–	–
Balancing item	–	457	–	220	–	357
Balance on capital account	**1,126**	-	**2,027**	-	**2,515**	-

(*a*) The amounts shown represent the recorded trade figures adjusted for balance of payments purposes. Adjustments affect timing, coverage and valuation. (*b*) Estimates cover period up to 31 December 1975 after which date the treatment of gold transactions in the balance of payments has changed. (*c*) Freight payable overseas only. Total freight and insurance on imports, whether payable overseas or in Australia, is estimated at $954 million in 1975–76 and $1,241 million in 1976–77 and $1,314 million in 1977–78.

BALANCE OF PAYMENTS BY REGIONS
($ million)

	1975–76	*1976–77*	*1977–78*
CURRENT ACCOUNT(*a*)			
Exports f.o.b.(*b*)—			
United States of America	867	982	1,241
Canada	243	280	276
United Kingdom	398	517	468
European Economic Community(*c*)	1,032	1,322	1,239
Japan	3,189	3,937	3,878
New Zealand	439	553	566
ASEAN	624	746	835
Papua New Guinea	163	190	227
Centrally Planned Economies(*d*)	748	771	991
Other countries	1,706	2,108	2,320
Total exports	*9,408*	*11,404*	*12,042*
Imports f.o.b.(*b*)—			
United States of America	–1,640	–2,145	–2,422
Canada	–194	–287	–272
United Kingdom	–1,042	–1,140	–1,267
European Economic Community(*c*)	–1,061	–1,519	–1,497
Japan	–1,558	–2,117	–2,103
New Zealand	–238	–314	–353
ASEAN	–313	–424	–546
Papua New Guinea	–35	–79	–73
Centrally Planned Economies(*d*)	–107	–150	–168
Other countries	–1,737	–2,169	–2,465
Total imports	*–7,924*	*–10,345*	*–11,165*
Invisibles (net)—			
United States of America	–843	–1,054	–1,169
Canada	–62	–52	–10
United Kingdom	–763	–910	–1,072
European Economic Community(*c*)	–231	–259	–307
Japan	–59	–101	–61
New Zealand	23	39	38
ASEAN	–164	–162	–185
Papua New Guinea	–112	–137	–119
Centrally Planned Economies(*d*)	–5	5	–3
Other countries	–417	–456	–503
Gold production	23	–	–
Total invisibles (net)	*–2,610*	*–3,086*	*–3,391*
Balance on current account—			
United States of America	–1,617	–2,216	–2,350
Canada	–13	–60	–6
United Kingdom	–1,408	–1,534	–1,870
European Economic Community(*c*)	–259	–457	–565
Japan	1,572	1,720	1,715
New Zealand	223	278	251
ASEAN	147	160	104
Papua New Guinea	16	–26	35
Centrally Planned Economies(*d*)	637	626	820
Other countries	–447	–517	–647
Gold production	23	–	–
Balance on current account	**–1,126**	**–2,027**	**–2,515**

For footnotes *see* end of table.

BALANCE OF PAYMENTS BY REGIONS—*continued*

($ million)

	1975–76	*1976–77*	*1977–78*
CAPITAL ACCOUNT (NET)(*a*)			
Non-monetary sector—			
Government capital movements—			
United States of America	43	-61	193
Canada	–	1	–
United Kingdom	-54	-79	-31
European Economic Community(*c*)	-23	362	1,145
Japan	–	-8	172
New Zealand	-1	–	–
ASEAN	-6	-4	-6
Papua New Guinea	2	3	3
Centrally Planned Economies(*d*)	–	–	–
Other countries	-90	-61	42
Total government capital movements	*-128*	*152*	*1,518*
Overseas investment in Australian companies—			
United States of America	364	624	621
Canada	15	70	-5
United Kingdom	279	360	368
European Economic Community(*c*)	12	267	63
Japan	101	175	191
New Zealand	13	-15	25
ASEAN	22	-36	30
Papua New Guinea	2	-1	–
Centrally Planned Economies(*d*)	1	-1	8
Other countries	-24	119	-25
Total overseas investment in Australian companies	*785*	*1,562*	*1,276*
Other private capital movements—			
United States of America	-50	-11	24
Canada	1	20	-6
United Kingdom	-25	-15	-114
European Economic Community(*c*)	-8	39	-5
Japan	58	19	-24
New Zealand	8	-29	-74
ASEAN	-11	-18	-42
Papua New Guinea	-48	-19	-34
Centrally Planned Economies(*d*)	-4	69	-144
Other countries	10	-41	-41
Total other private capital movements	*-69*	*13*	*-459*
Total non-monetary sector transactions—			
United States of America	357	552	839
Canada	16	90	-10
United Kingdom	200	267	223
European Economic Community(*c*)	-19	668	1,203
Japan	159	186	339
New Zealand	20	-44	-49
ASEAN	6	-58	-19
Papua New Guinea	-44	-17	-31
Central Planned Economies(*d*)	-3	68	-135
Other countries	-103	17	-25
Total non-monetary sector transactions	*588*	*1,727*	*2,336*
Monetary sector transactions—			
Net official monetary movements(*e*)	1,020	491	542
Non-official monetary sector transactions(*e*)	-25	30	-6
Balancing item(*e*)	-457	-220	-357
Balance on capital account(*e*)	**1,126**	**2,027**	**2,515**

(*a*) For current account entries minus sign (-) denotes a debit; for capital account items minus sign (-) denotes an increase in overseas assets or a decrease in liabilities to overseas. (*b*) The amounts shown represent recorded trade figures adjusted for balance of payments purposes. Adjustments affect timing, coverage and valuation. (*c*) Excluding United Kingdom. (*d*) Albania, Bulgaria, Czechoslovakia, Democratic Kampuchea, German Democratic Republic, Hungary, Lao Peoples Democratic Republic, Mongolia, North Korea, Peoples Republic of China, Poland, Romania, Socialist Republic of Vietnam, U.S.S.R. (*e*) No regional split is available for these items.

International reserves

The following table shows Australia's official reserve assets as at 30 June for recent years.

OFFICIAL RESERVE ASSETS(*a*)

(*Source:* Reserve Bank of Australia)

($ million)

	30 June		
	1977	*1978*	*1979*
Official reserve assets—			
Gold	947	1,225	1,939
Special Drawing Rights	27	113	195
Reserve position in IMF	174	179	186
Foreign exchange—			
United States dollars	1,312	727	612
Others	851	982	952
Total	**3,312**	**3,225**	**3,885**

(*a*) SDRs, and Australia's reserve position in the IMF are based on the IMF basket valuation for the SDR, which is published in terms of US dollars crossed with the representative rate for the Australian dollar in terms of the US dollar. Gold is valued at the average London gold price for the month, converted to Australian dollars at the market rate of exchange applying on the last day of the month. The foreign currency value of all other overseas assets has been based, where applicable, on market quotations. Accrued interest is normally taken into account. Conversion to Australian dollar equivalent is based on market rates of exchange.

FOREIGN CONTROL

A program of studies of foreign control of key industries and economic activities in Australia has been undertaken. Studies have been completed for manufacturing, mining, mineral exploration other than for petroleum, petroleum exploration, registered financial corporations other than retailers, finance companies, general insurance, life insurance, tourist accommodation, accredited advertising agencies and research and experimental development (R and D). This program of foreign control studies was terminated in 1978, as part of the measures necessary to bring ABS activities within the resources available to it.

Brief explanatory notes and a summary of the main results of these studies are given below.

An enterprise in Australia has been classified to *foreign control* if a foreign resident investor (individual, company or group of related companies) or foreign controlled enterprise held at least 25 per cent of the paid-up value of its voting shares (or equivalent equity interest in the case of unincorporated enterprises), provided that there was no larger holding by an Australian controlled enterprise or Australian resident individual. This definition of foreign control includes cases where there was an equal holding by an Australian controlled enterprise or Australian resident individual. All enterprises not classified to foreign control have been classified to *Australian control.*

To obtain aggregate measures of the extent of foreign control of an industry (or economic activity), operations data for each statistical unit in that industry (economic activity) have been allocated wholly to the appropriate control category for that unit and the results summed over all units in the industry (economic activity).

In the following table the classification by country of foreign control is based on the country of domicile of the *immediate* foreign resident investor who held the controlling interest in the enterprise. This is not necessarily the country of ultimate control, since an immediate foreign resident investor may be an enterprise that is controlled by residents of another country.

FOREIGN CONTROL OF INDUSTRIES AND ECONOMIC ACTIVITIES IN AUSTRALIA

Industry and period	*Foreign/Aust. control measured in terms of*	*Foreign control*						
		U.K.	*U.S.A.*	*Other*	*Total*	*Australian control*	*Total*	*Total*
		per cent	per cent	per cent	per cent	per cent	per cent	$ million
Manufacturing 1972–73	value added	16.2	13.1	5.0	34.3	65.7	100.0	10,746
Manufacturing industry—study of large enterprise groups 1975–76	value added	20.5	16.7	6.2	43.5	56.5	100.0	8,534
Mining 1976–77	value added	15.9	37.5	5.6	59.0	41.0	100.0	3,562
Mineral exploration other than for petroleum 1975–76	exploration expenditure	15.0	23.6	15.8	54.4	45.6	100.0	117
Petroleum exploration 1975–76	exploration expenditure	36.7	34.1	3.6	74.4	25.6	100.0	60
Registered financial corporations other than retailers 1976	total assets	14.2	17.1	2.5	33.8	66.2	100.0	25,172
Finance companies 1976	balances outstanding	17.9	26.5	3.8	48.2	51.8	100.0	13,254
General insurance business 1975–76	premiums received	26.0	2.7	9.1	37.8	62.2	100.0	2,846
Life insurance business 1976	premiums received	13.2	1.7	3.8	18.7	81.3	100.0	1,501
Tourist accommodation establishments 1973–74	total takings	1.2	0.7	2.3	4.3	95.7	100.0	1,361
Accredited advertising agencies 1974–75	turnover	6.4	44.5	—	50.9	49.1	100.0	464
R and D performed on account of private enterprises 1976–77	expenditure	21.2	23.5	7.5	52.3	47.7	100.0	156

VALUES OF EXPORTS AND IMPORTS OF MERCHANDISE AT CONSTANT PRICES

The following tables show annual values of Australian exports and imports of merchandise at constant (average 1974–75) prices. These estimates are compiled on the basis of recorded statistics of merchandise trade within the framework of the Australian Export Commodity Classification (AECC) and the Australian Import Commodity Classification (AICC). Quarterly figures in original and seasonally adjusted terms are published regularly in the publication *Exports and Imports of Merchandise at Constant Prices* (5421.0).

Nature of measures

In concept, constant price estimates may be thought of as being derived by expressing the value of each component transaction as the product of a quantity and a price, and then substituting, for each current period price, the average price of the corresponding item in the base year. There are, however, many transactions recorded in statistics of overseas trade for which it is not possible to apply such an approach. Some common examples of such transactions are those where quantity data are not recorded or where there is some doubt as to whether the commodity involved corresponds sufficiently to that for which a base year price has been calculated. In these cases it is necessary to make assumptions and approximations (e.g. revaluing by means of the price index which is considered to be most closely related to the commodity involved). The published estimates at constant prices should be viewed in the light of these approximations and should not be interpreted as precise quantitative measures.

The system of recording import values was changed from 1 July 1976. It has been estimated that, if the previous basis of valuation had been continued, the total value of imports would have been about 2 per cent higher at current prices than the recorded values on the new basis. The constant (average 1974–75) price estimates would be affected to a much lesser degree (refer page 662).

From 1978–79, exports and imports have been classified according to the new AECC and the new AICC respectively. These are based on the Standard International Trade Classification, Revision 2. The changes in the commodity classification have caused only two significant discontinuities in the published aggregates between 1977–78 and 1978–79, both being due to the reclassification of exports of alumina from division 51 of the superseded AECC to division 28 of the current AECC. The other published aggregates have not been significantly affected by the adoption of the new commodity classification.

IMPORTS OF MERCHANDISE AT AVERAGE 1974-75 PRICES

($ million)

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79p*
Food, beverages and tobacco	354	377	330	379	372	371
Fuels	769	724	679	763	797	753
Basic materials	539	433	409	441	427	453
Chemicals (incl. plastics)	805	786	666	799	832	960
Textiles, fabrics, etc.	658	436	521	546	516	596
Metals, metal manufactures, machinery and transport equipment	3,131	3,565	3,156	3,515	3,096	3,658
Other imports	1,623	1,639	1,570	1,747	1,679	1,829
Total imports of merchandise	**7,879**	**7,961**	**7,331**	**8,190**	**7,718**	**8,620**

EXPORTS OF MERCHANDISE AT AVERAGE 1974-75 PRICES

($ million)

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79p*
Principal exports of rural origin—						
Meat and meat preparations	479	444	602	727	799	834
Cereal grains and cereal preparations	975	1,460	1,460	1,535	1,794	1,277
Sugar, sugar preparations and honey	600	661	664	841	813	613
Wool and sheep skins	836	816	1,024	1,191	900	1,030
Other (dairy produce, fruit, etc.)	461	399	471	526	460	498
Total	*3,351*	*3,780*	*4,222*	*4,820*	*4,768*	*4,252*
Other exports—						
Metalliferous ores and metal scrap	1,168	1,202	1,177	1,218	1,207	1,634
Coal, coke and briquettes	623	733	674	767	827	822
Metals, metal manufacturers, machinery and transport equipment	1,448	1,551	1,433	1,504	1,486	1,743
Other exports	1,311	1,275	1,333	1,414	1,545	1,346
Total	*4,550*	*4,761*	*4,617*	*4,904*	*5,066*	*5,545*
Total exports of merchandise	**7,901**	**8,541**	**8,840**	**9,724**	**9,835**	**9,796**

Further information

For detailed information *see* the Annual Bulletin of *Foreign Investment, Australia* (5305.0) also the other annual publications *Overseas Trade, Australia* (issued in two parts) (5409.0 and 5410.0), *Australian Exports, Country by Commodity* (5411.0), *Australian Imports, Country by Commodity* (5414.0), *Imports Cleared for Home Consumption* (issued in two parts) (5412.0 and 5413.0), *Exports, Australia: Annual Summary Tables* (5424.0), *Exports of Major Commodities and their Principal Markets, Australia* (5423.0), *Imports, Australia: Annual Summary Tables* (5426.0) and *Customs and Excise Revenue, Australia* (5427.0) and the annual publication *Balance of Payments, Australia* (5303.0). Preliminary information is available in summary form in the statements *Balance of Payments, Australia—Quarterly Summary* (5302.0), *Foreign Investment—Preliminary* (annual) (5304.0), *Australian Overseas Trade—Exports and Imports* (5401.0) (monthly), *Overseas Trade, Australia—Exports by Commodity Divisions* (monthly) (5402.0), and *Overseas Trade, Australia—Imports by Commodity Divisions* (monthly) (5405.0). Current information is included in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics* (1305.0), and in more detail in *Exports, Australia* (monthly) (5404.0), *Imports, Australia* (monthly) (5406.0) and *Customs and Excise Revenue, Australia* (monthly) (5425.0). There are also the following additional publications: *Exports of Major Commodities and their Principal Markets, Australia* (monthly) (5403.0), *Imports of Assembled New Passenger Motor Cars, Australia* (monthly) (5416.0) and *Exports by Mode of Transport, Australia* (quarterly) (5415.0) and *Exports and Imports, Australia: Trade with Selected Countries and Major Country Groups* (quarterly) (5422.0). Additional unpublished details of exports and imports can be supplied on request.

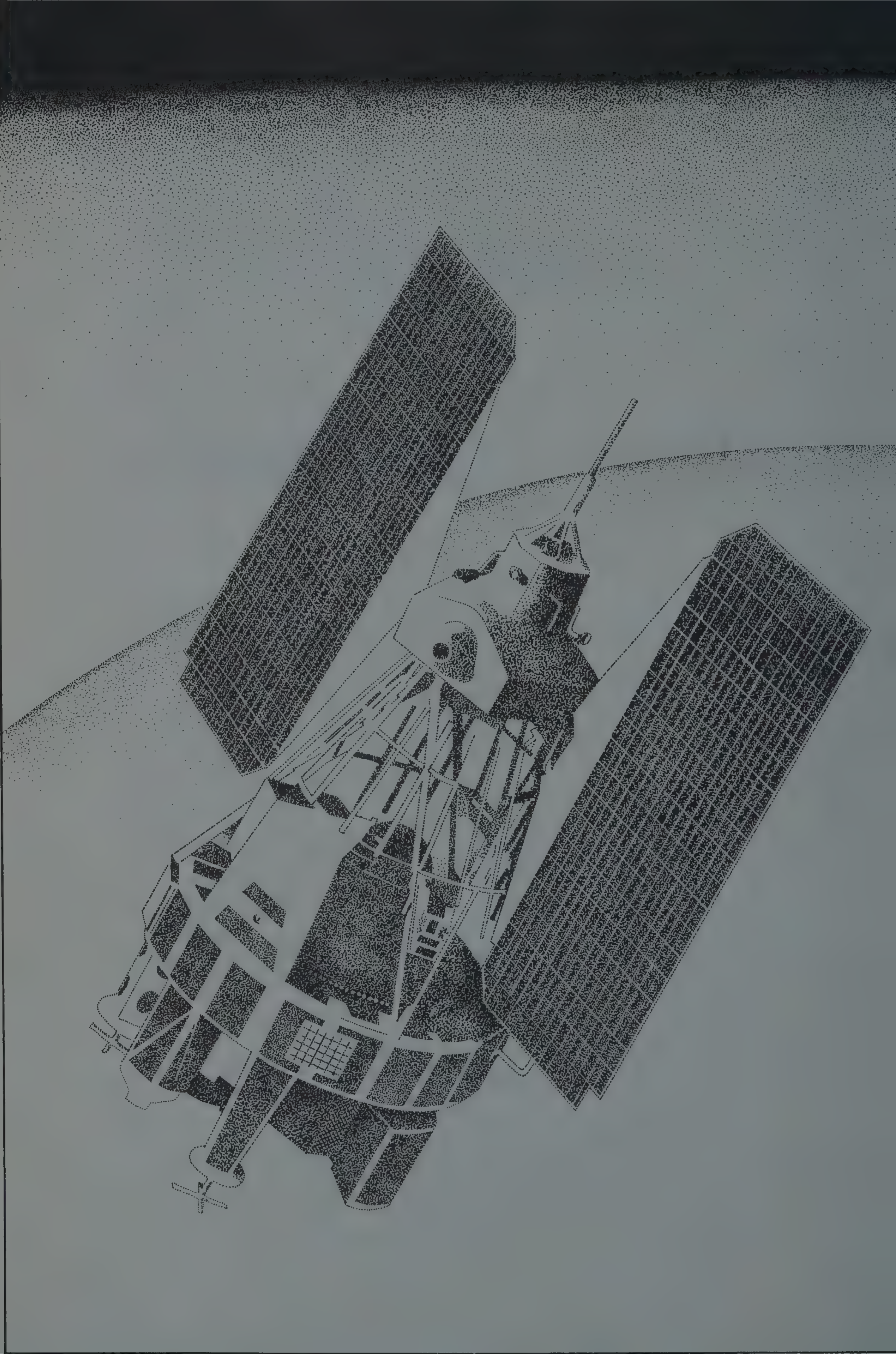
A subscription service is available from this Bureau to provide for the detailed requirements of individual users of overseas trade statistics. These special periodical statements are obtainable monthly or quarterly and show trade according to items of the Australian Export and Import Commodity Classifications or statistical key code dissections of Australian Customs Tariff items. An appropriate charge is made which varies depending on the amount of detail required.

More detailed statistics and explanatory notes on individual foreign participation studies are contained in the following publications:

Foreign Ownership and Control in Manufacturing Industry, 1972–73 (5322.0), *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups,* 1975–76 (5315.0), *Foreign Control in the Mining Industry,* 1976–77 (5329.0), *Foreign Control in Mineral Exploration,* 1975–76 (5323.0), *Foreign Control of Registered Financial Corporations,* 1976 (5328.0), *Foreign Control of Finance Companies,* 1976 (5324.0), *Foreign Control of General Insurance Business,* 1975–76 (5326.0), *Foreign Control of Life Insurance Business,* 1976 (5325.0), *Foreign Ownership and Control of Tourist Accommodation Establishments,* 1973–74 (5319.0), *Foreign Ownership and Control of Accredited Advertising Agencies* 1974–75 (5318.0) and *Foreign Control in Research and Experimental Development, Private Enterprises,* 1976–77 (5330.0).

CHAPTER 25

SCIENCE AND TECHNOLOGY



CHAPTER 25

SCIENCE AND TECHNOLOGY

Overview

Much of the early history of Australian science was based largely on the individual achievements of a few outstanding scientists.

During and after World War I, governments in various parts of the world took initiatives aimed at encouraging scientific research and applying it to economic growth and national development; Australia was no exception. In 1926 the Council for Scientific and Industrial Research (CSIR) was established by the Commonwealth Government. Initially, it concentrated its efforts on the primary industries, typifying the trend of research in Australia at that time, when most major research initiatives were taken by Government and aimed at the primary industries. The level of research in the universities and industries remained much as before.

With the approach of World War II, however, moves were made to extend scientific support for secondary industry. In the CSIR Divisions created in the period 1937–40 were to play an important part in the rapid development of Australian industry that occurred under the stimulus of war-time needs.

Expansion of scientific research in general, and industrial research in particular, continued after the war. This expansion extended beyond government into the universities and industry.

Though, even today agricultural research absorbs a significant proportion of Australia's research effort, industrial, medical and defence research are now of major importance also. The volume of research in the social sciences remains small, although in Australia, as elsewhere in recent years, there has been increasing support for the view that adequate weight must be given in governmental policy-making to the social aspects of national proposals.

In 1976–77, the most recent year for which data are available, total expenditure on research and development (R & D) in both the natural and social sciences was estimated at $802 million, approximately equivalent to 1.0 per cent of the Gross Domestic Product in that year. The data are summarised in the table on page 705 of this Year Book.

In 1976–77, governments in Australia provided approximately 80 per cent of the funds devoted to R & D and undertook in their own agencies approximately 56 per cent (in terms of expenditure) of the overall national R & D effort.

Whilst these data serve to illustrate the dominant position occupied by governments in Australian scientific and technological R & D activities, they do not provide a complete picture since comprehensive information is not available on resources devoted to other scientific and technological activities in Australia.

Advice and co-ordination

In order to achieve at the national level integration of advice, relative assessment of priorities and the development of criteria and broad strategies for future directions, three national advisory bodies, in addition to the Department of Science and the Environment, have been established: the Australian Science and Technology Council (ASTEC), which is responsible to the Prime Minister; the National Energy Advisory Committee (NEAC), which advises the Minister for National Development on matters relating to national energy policy; and the Australian Manufacturing Council (AMC), which is served by some eleven advisory councils and advises the Minister for Industry and Commerce on matters of industry policy. In 1978, the Government decided to establish a Commonwealth Council for Rural Research and Extension, which will advise the Minister for Primary Industry.

Australian Science and Technology Council (ASTEC)

Prior to the establishment of ASTEC, there had been an intensive period of discussion and review concerning arrangements for the provision to the Government of adequate advice on policies for science and technology in Australia. An outline of the discussions can be found in Chapter 28 of Yearbook No. 61.

The ASTEC was established as a permanent body by executive action in April 1977. At that time the Prime Minister announced in Parliament that ASTEC would become a statutory body. The

ASTEC legislation passed through Parliament in the Autumn session of 1978. The ASTEC was established as a statutory authority in February 1979.

ASTEC's legislation states:

> The functions of the Council are to investigate, and to furnish information and advice to the Commonwealth Government in respect of matters relating to science and technology, including the following matters:
>
> - the advancement of scientific knowledge;
> - the development and application of science and technology in relation to the furtherance of the national well-being;
> - the adequacy, effectiveness and overall balance of scientific and technological activities in Australia;
> - the identification and support of new ideas in science and technology likely to be of national importance;
> - the practical development and application of scientific discoveries;
> - the fostering of scientific and technological innovation in industry; and
> - the means of improving efficiency in the use of resources by the application of science and technology.

These functions allow ASTEC a wide purview, ranging from pure science, to the problems of improving efficiency in industry by applying the results of research and development. It considers activities and technological problems of higher education institutions and private enterprise.

To discharge its functions, the Council is provided with appropriate powers. The Council is able to form committees, engage consultants, conduct inquiries and collect information on any matter within its functions arising either from its own initiative or at the direction of the Minister to whom ASTEC reports (presently the Prime Minister).

The Council's reports to the Government are made public unless there are overwhelming reasons in the national interest for not doing so. ASTEC's Act contains detailed provisions requiring the prompt tabling in Parliament of ASTEC reports except in closely defined circumstances.

The ASTEC's first major exercise since its formation has been a comprehensive review of the state of Australian science and technology, embracing description of various areas of national importance, and recommendation thereon. The first part of this report was made public in mid-1978, and it was published in its completed form in March 1979.

ASTEC has also provided reports to Government on the organisation of the Bureau of Mineral Resources, Geology and Geophysics, in November 1978; on arrangements for the direct funding of basic research in Australia, in March 1979; on the next generation of Australian telescopes, in May 1979; and on immediate issues in Australian marine science, in July 1979. Other referrals from Government, on subjects such as contracting research and development to industry, and interaction between sectors involved in science and technology, are under consideration and reports will be made about the end of 1979.

Following a recommendation in the abovementioned review of Australian science and technology, the Australian Marine Sciences and Technologies Advisory Committee was established in February 1979 as a standing committee of ASTEC. Its functions include assessment of present activities in marine sciences and technologies, and advising on priorities and mechanisms for achieving a balanced national program in this area.

The ASTEC is also proceeding with studies which will assist in the development of its strategic role involving the matching of Australia's science and technology effort to its resources, problems and goals. These studies include development of means to measure science and technology effort, examination of the mechanisms used in other countries for establishing priorities in science and technology, and of the scientific and technological implications of Government policies.

National Energy Advisory Committee (NEAC)

For information on NEAC *see* Chapter 18, Energy.

Department of Science and the Environment

Successive Governments have seen the Department of Science, and now the Department of Science and the Environment, as having a complementary role in relation to an advisory council on science and technology. As a government department it has ready access to information available to government concerning civil science and technology, and is able to provide a scientific and technological perspective at the interdepartmental level. It is also a focus for the Governments environmental concerns and its responsibilities include the administration of the Environment Protection (Impact of Proposals) Act. The Department's role includes the fostering of closer working relationships and consultation among government agencies, tertiary institutions, scientific associations, the private sector and the community. The Department's administrative functions in relation to certain scientific services and research activities (such as the Bureau of Meteorology, the Australian Government Analytical Laboratories, the Antarctic Division, the Australian Biological Resources Study, the Australian Research Grants Scheme and Australia's science agreements with other countries), help to ensure that its policy advice is tempered with an awareness of practical problems in science and technology.

Department of Productivity

The Department was established in November 1976 as a technologically orientated agency to foster increased industrial productivity. It is responsible for technology development programs directed towards the development and utilisation of new or improved technologies, such as the Assistance to Inventors Scheme, Patent Information Service, and the promotion of industrial research and development. It also promotes technology development by encouraging the use of modern technology by industry and the commercial development of major Australian innovations by Australian industry; it assists the development of process technologies to increase the competitiveness of sectors of Australian industry, and assists the development and exploitation of Australian inventions.

The Department is involved with a number of technology transfer programs designed to assist industry in making the most effective use of existing and developing technology. These programs include quality development, in which the Department works closely with the Standards Association of Australia, the Industrial Design Council of Australia, and the Australian Organisation of Quality Control; information technology and the active participation and support of the Information Technology Council; and a technical referral network being established in conjunction with the Technology Transfer Council.

Other activities of the Department related to technology include specific productivity programs, materials handling (National Materials Handling Bureau) and programs in the physical, social and organisational aspects of the working environment which help to facilitate the introduction of new technology. The Department also supports the Productivity Promotion Council of Australia.

Energy Research and Development

The Department of National Development through the National Energy Office provides policy and technical advice on energy research, development and demonstration (R, D&D) and administers the National Energy Research, Development and Demonstration Program. The program is funded from levies paid to the Coal Research Trust Account under the provisions of the *Coal Research Assistance Act* 1977 and from a Departmental appropriation for energy research. Over $15 million was committed in the 1978–79 financial year for research, development and demonstration projects.

This was the first full year of operation of the National Energy Research, Development and Demonstration Council (NERDDC) established in May 1978 to advise the Minister on development and co-ordination of the Government's overall effort in energy R, D&D, on the allocation of grants for individual projects, and on support for international projects. The thirteen members of NERDDC have a wide range of backgrounds in private industry, academic fields, and government administration. During the 1978–79 year, on NERDDC's recommendations, the Minister established seven Technical Standing Committees, each chaired by a member of NERDDC and comprising thirty-four other members. These committees cover all energy fields and provide specialist technical advise to NERDDC. The Council and the committees are supported by a secretariat provided by the Energy Research and Development Division of the National Energy Office.

The main task of NERDDC during the 1978–79 year was to assess the applications received for support grants and to make recommendations to the Minister. The Council is required to report annually to the Minister. Grants approved by the Minister under the R, D&D Program are administered by the Department. With the assistance of NERDDC and the Technical Standing Committees, the Department also monitors scientific and technical progress and performance.

Other Organisations

Advice to government on scientific and technological issues comes also from various learned and professional bodies. Such counsel may be offered on the initiative of the organisation itself or in response to an official request. For example, the *Australian Academy of Science* maintains a number of sectional and standing committees which specialise in selected broad fields of science; ad hoc advisory committees are appointed by the Academy from time to time to examine and report on specific matters. In addition, the Academy has maintained since 1967 a Science and Industry Forum which brings together leading scientists and industrialists to discuss topics of national significance, a complementary Science and Society Forum was inaugurated in 1973. Communication between government and the technology area of the science-technology spectrum is facilitated by the *Australian Academy of Technological Sciences.*

The most broadly based of the learned and professional bodies is the *Australian and New Zealand Association for the Advancement of Science* (ANZAAS). The Association has established a Science Policy Commission for giving increased attention to policy issues.

In recent years, matters of scientific and technological policy have received much discussion among such learned and professional organisations as well as in academic circles. Increasingly, other professional bodies with more specific charters are giving attention to matters of science and technology policy. Such bodies include the *Royal Australian Chemical Institute* (RACI), the *Institution of Engineers, Australia,* the *Australian Institute of Physics,* and the *Federation of Australian University Staff Associations* (FAUSA) which concentrates on issues specifically affecting the university sector.

There are a number of groups within the industry sector—e.g. the Australian Industrial Research Group (AIRG) and some specialist panels (Industry Advisory Councils) of the Australian Manufacturing Council (AMC)—which, from time to time, provide advice to government on industrial research and development.

Intergovernmental co-ordination is affected through bodies established for the purpose. While certain of these are concerned with promoting research and scientific and technical services, these are secondary objectives pursued in tandem with economic, social or environmental goals. Typical of these bodies are the Australian Agricultural Council, the Australian Minerals and Energy Council, the Australian Water Resources Council, and the Australian Environment Council.

The intergovernmental ministerial councils are assisted by standing committees of officials. Frequently, expert working groups and sub-committees are established to consider particular specialised aspects of a Council's broad field of interest and to advise the council through the relevant standing committee.

Councils do not directly undertake research or the provision of services, although such activities are commonly pursued within agencies coming under the control of individual ministerial members. In some instances, councils have control of research funds and provide grants or arrange for projects to be undertaken in particular fields of interest.

In some scientific and technical fields not coming directly within the purview of the Ministerial councils, there are standing arrangements at agency level for consultation and promotion of co-operation (the Electricity Supply Association of Australia is an example).

In addition to intergovernmental agencies, official advisory bodies have been established to deal with activities, interests and responsibilities of the Federal Government and its agencies, and to advise on Government support of higher education and of industry. Amongst these bodies are the Australian Research Grants Committee (ARGC); the National Health and Medical Research Council (NHMRC); the Australian Industrial Research and Development Incentives Board (AIRDIB); the CSIRO Advisory Council and its State Committees; the Rural Industry Research Fund Advisory Committees; the Tertiary Education Commission and its Councils; and the National Energy Research Development and Demonstration Council.

The Prime Minister announced the establishment of the *Antarctic Research Policy Advisory Committee* in February 1979 to advise the Government, through the Minister for Science and the Environment, on the development of an effective and balanced program of scientific and exploration activity in the Antarctic and sub-Antarctic region. In particular, the Committee will advise on priorities for scientific and technological research in areas such as mineral and living resources, and on the potential environmental effects of exploitation.

It will advise on the scientific merit and adequacy of Australian Antarctic research programs, on the organisational arrangements for implementation of programs, and on the role of the Antarctic Division of the Department of Science and the Environment in this effort. From time to time, it will also undertake reviews of existing programs and provide advice on new programs, taking into account current government policy in these areas.

The Committee is chaired by Professor D. E. Caro, Vice-Chancellor of the University of Tasmania.

In August 1979, the Prime Minister announced the creation of the *Marine Research Allocations Panel* to advise the Minister for Science and the Environment on the allocation of funds provided for grants in marine science and technology. An amount of $400,000 was provided for 1979–80 and the two succeeding financial years, with $300,000 to be devoted to the Great Barrier Reef region.

The *Building Research and Development Advisory Committee* is the main link between private industry and the principal Commonwealth research groups, the CSIRO Division of Building Research, the Department of Housing and Construction, and the Physical Working Environment Branch of the Department of Productivity.

The Committee advises the Commonwealth Government organisations concerned in building research and development on the technical problems of industry and where research, investigation, development work or technical liaison activity is required. It also assists in the dissemination of knowledge of the activities of organisations undertaking research and development work, and investigates the nature and extent of both government and privately funded research in the Australian building industry and advises all parties concerned of any overlapping or duplication of research effort.

The Technology Transfer Council was formally established in August 1978 to provide a technical referral program aimed at utilising the technological expertise resident in academic, government and private research institutions, and to assist in the effective use of existing technology in Australian industry. A network of technical referral centres is planned. For the first three years, the project will operate on a pilot scale in the metals manufacturing industry. There will be two specialist centres in the first stage of the project: the Centre of Machining Technology hosted by Swinburne College of Technology, and the Centre of Casting Technology hosted by the Division of Material Science, CSIRO, Melbourne. Four generalist centres are also planned for immediate establishment.

The Information Technology Council was established in March 1978 on the initiative of the Department of Productivity. It is concerned with establishing facilities for the guidance, instruction, demonstration and support to business management on the use of information technology. It also seeks to promote the importance of information technologies to business and to sponsor specific projects in the field.

Established in 1963, the *Australian Water Resources Council* (AWRC) is a Commonwealth and State Ministers' forum for dealing with water resources matters of mutual interest. Commonwealth and State collaboration through the AWRC initially concentrated on resources assessment and research, but more recently the Council's functions have been expanded to include management and planning. The AWRC and its committees have provided an important contribution to the development of Commonwealth water policies and programs and, in many cases, provide the means of implementing them.

As part of its secretariat role, the Department of National Development publishes reports and documents, and also arranges seminars and workshops on behalf of the AWRC.

The Commonwealth established the *Water Research Fund* in 1968 to provide support for a research program developed through the AWRC. The Fund is administered by the Department of National Development. Funds have been committed on a triennial basis, currently running at $390,000 annually.

The program covers basic and applied research into all aspects of water resources with the aim of providing a better basis for the assessment, planning, development and management of Australia's water resources. It complements research work being carried out by government agencies, universities and other organisations and, in general, is used to stimulate new work not handled within existing programs.

The program for the 1977–80 triennium is diverse with emphasis on projects concerned with various aspects of water quality and water re-use, groundwater investigations, water resources planning and development of measurement techniques.

Expenditure and manpower

Project SCORE

Project SCORE (Survey and Comparisons of Research Expenditures) provides details of Australian expenditure on research and experimental development activities. It should be noted, however, that is does not provide comprehensive data on all resources devoted to scientific and technological activities in Australia. Programs not covered by Project SCORE, some of which involve large expenditures, are those which have no research and development component; such programs include many of those aimed at providing scientific or technological services.

Coverage and Methodology. The first comprehensive survey of expenditure on research and experimental development (R & D) was carried out for the 1968–69 financial year. This survey, known as Project SCORE, covered R & D expenditure and manpower in the natural and social sciences in all sectors of the Australian economy. The Project was carried out principally by means of questionaires and, in order to provide direct comparison with other OECD countries, followed (with some exceptions) guidelines laid down by the OECD. In addition to a summary report dealing with the overall national situation, separate Project SCORE reports cover the following sectors: Commonwealth Government, Private enterprise, State Government, Higher education, and Private non-profit. A summary of the results for 1968–69 is given in Year Book No. 60, pp 995–1005.

The results of the second survey, for the 1973–74 financial year (1974 calendar year for the Higher education sectors), were published in two volumes: Volume 1 contains the reports for the Commonwealth Government, State Government, and Private non-profit sectors, while Volume 2 presents an all-sector summary together with the reports for the Private enterprise and Higher education sectors. A summary of the results is given in Year Book No. 61, pp 989–998.

A third survey, for the 1976–77 financial year (1976 calendar year for the Higher education sector), was in press at the time of writing.

For the purposes of the surveys, *research* was defined as original investigation directed towards increasing the general body of knowledge about, or understanding of, the subject studied. Within this category, *basic research* was taken to be original investigation of which the primary aim was more complete knowledge or understanding of the subject under study, while *applied research* was taken to be original investigation of which the primary aim was the solution of a recognised practical problem. Work was defined as *experimental development* where it involved the systematic use or adaptation of research results directed towards the production of new or improved products, processes, systems or methods. The physical, chemical, biological, earth, engineering and applied, agricultural and medical sciences were included in the natural sciences, which together with the social sciences, were covered in all the surveys. The 1973–74 and 1976–77 surveys also covered R & D in the humanities, which was excluded in 1968–69.

Because of changes in definition and interpretation, as well as retrospective revision, the published data are not completely comparable between surveys.

All sectors. Gross expenditure on R & D performed in Australia (GERD) in 1976–77 was $803 million, of which $726 million (91 per cent) was spent in the natural sciences, engineering and technology; and $76 million (9 per cent) was spent on research in the social sciences and humanities. Expenditure and manpower according to sector of performance were as follows.

EXPENDITURE AND MANPOWER DEVOTED TO R & D IN AUSTRALIA IN 1976–77 BY SECTOR OF PERFORMANCE

	Expenditure		*Manpower*	
Sector of performance	*$ million*	*per cent*	*man-years*	*per cent*
Private enterprise	157	20	7,895	18
Commonwealth Government	319	40	12,982	30
Higher education	184	23	15,290	35
State Government	132	16	6,829	16
Private non-profit	11	1	579	1
Total	**803**	**100**	**43,574**	**100**

The following tables contain figures for expenditure on R & D in 1976–77 according to source and sector of performance and for both expenditure and manpower according to major objectives.

EXPENDITURE ON R & D IN AUSTRALIA IN 1976–77 BY SECTOR OF PERFORMANCE AND SECTOR OF SOURCE OF FUNDS

($'000)

	Source						
Sector of performance	*Commonwealth Government*	*State Government*	*Private enterprise*	*Higher education*	*Private non-profit*	*Overseas*	*Total*
Commonwealth Government	308,252	220	1,139	1	848	8,239	318,699
State Government	15,401	114,123	2,011	2	384	178	132,099
Private enterprise	8,397	651	143,365	..	..	4,217	156,632
Higher education	174,243	2,216	1,857	..	5,237	768	184,322
Private non-profit	4,572	1,438	214	113	3,571	804	10,712
Total	**510,865**	**118,648**	**148,587**	**116**	**10,040**	**14,206**	**802,464**

EXPENDITURE AND MANPOWER DEVOTED TO R & D IN AUSTRALIA IN 1976-77 BY OBJECTIVE SUB-GROUP

	Natural sciences				*Social sciences and humanities*			
	Expenditure		*Manpower*		*Expenditure*		*Manpower*	
Objective sub-group	*$'000*	*per cent*	*man-years*	*per cent*	*$'000*	*per cent*	*man-years*	*per cent*
Private enterprise (*a*)	156,632	21.6	7,895	21.1	..	..	..	..
Other sectors—								
Defence	87,588	12.1	4,232	11.3	63	..	8	0.1
Primary industry	153,415	21.1	7,865	21.0	1,221	1.6	53	0.9
Secondary industry	56,570	7.8	2,725	7.3	148	..	9	0.1
Other economic development	79,935	11.0	3,018	8.1	15,978	20.9	885	14.5
Health	40,742	5.6	2,357	6.3	1,223	1.6	87	1.4
Environment	18,543	2.6	1,066	2.8	730	1.0	43	0.7
Other community welfare	4,139	0.6	247	0.7	17,928	23.5	1,258	20.7
Advancement of knowledge	128,619	17.7	8,076	21.6	38,990	51.1	3,748	61.5
Total	**726,183**	**100.0**	**37,482**	**100.0**	**76,280**	**100.0**	**6,092**	**100.0**

(*a*) Because of the low incidence of R & D in the Social Sciences reported by Private enterprises in the 1976-77 survey of research and experimental development, all Private enterprise R & D has been assigned to the natural sciences. Private enterprise R & D cannot be assigned unambiguously to objective sub-groups because the survey classification was by industry rather than by objective.

Australian R & D effort in real terms rose by about 20 per cent between 1968-69 and 1973-74 and then declined sharply between 1973-74 and 1976-77 to a level only slightly greater than in 1968-69. Gross expenditure on R & D (GERD) as a percentage of gross domestic product (GDP) decreased from about 1.3 to 1.2 per cent between 1968-69 and 1973-74 and fell further to 1.0 per cent by 1976-77, while GDP continued to rise steadily in real terms throughout the period.

Performance of R & D increased in all sectors between 1968-69 and 1973-74, thereafter continuing to rise in the State Government sector, while remaining almost stationary in the Commonwealth Government, Higher education and Private non-profit sectors, and declining sharply in the Private enterprise sector.

INTRAMURAL R & D EXPENDITURE BY SECTOR OF PERFORMANCE, 1968-69 TO 1976-77

(estimated values at constant (average 1974-75) prices)

	1968-69		*1973-74*		*1976-77*	
	$ million	*Per cent*	*$ million*	*Per cent*	*$ million*	*Per cent*
Commonwealth Government	202	34	245	34	251	39
State Government	70	12	90	12	104	16
Higher education	118	20	157	22	153	24
Private non-profit	4	1	7	1	8	1
Private enterprise	205	34	225	31	123	19
Total	**599**	**100**	**724**	**100**	**639**	**100**

Total R & D manpower effort as a percentage of the civilian labour force showed little change between 1968-69 and 1973-74, but declined significantly from about 0.85 to 0.7 per cent between 1973-74 and 1976-77. Researchers provided an increasing relative share of the total R & D manpower effort over the period 1968-69 to 1976-77, mainly at the expense of other supporting staff. This is summarised in the following table.

TOTAL R & D MANPOWER EFFORT BY TYPE OF MANPOWER, 1968-69 TO 1976-77

	1968-69		*1973-74*		*1976-77*	
	Man-years	*Per cent*	*Man-years*	*Per cent*	*Man-years*	*Per cent*
Researchers	17,700	42	24,600	48	22,500	52
Technicians	12,600	30	16,700	33	12,600	29
Other support staff	11,900	28	10,100	20	8,500	20
Total	**42,200**	**100**	**51,400**	**100**	**43,600**	**100**

Commonwealth Government sector. Within the Commonwealth Government sector, total intramural expenditure on R & D was $319 million, representing 1.3 per cent of Commonwealth Government outlays for 1976–77 ($24,925 million). Manpower involved in this R & D effort was equivalent to 13,000 man-years. Of this effort about 4,800 man-years were attributed to workers who held professional qualifications. Distribution of this expenditure and manpower effort by objectives and field of science is shown in Plates 49 and 50, pages 707 and 708. Other major features were:

(*a*) Socio-economic objective groups accounted for the intramural R & D expenditure of the Commonwealth Government as follows:

	per cent
Economic development	52
National security	27
Advancement of knowledge	14
Community welfare	7

(*b*) Expenditure in the Economic development group was distributed between the following sub-groups:

	per cent
Primary industry	17
Secondary industry	12
Energy	5
Other	17

(*c*) Two respondents, CSIRO and the Department of Defence, accounted for 71 per cent of the total intramural expenditure.

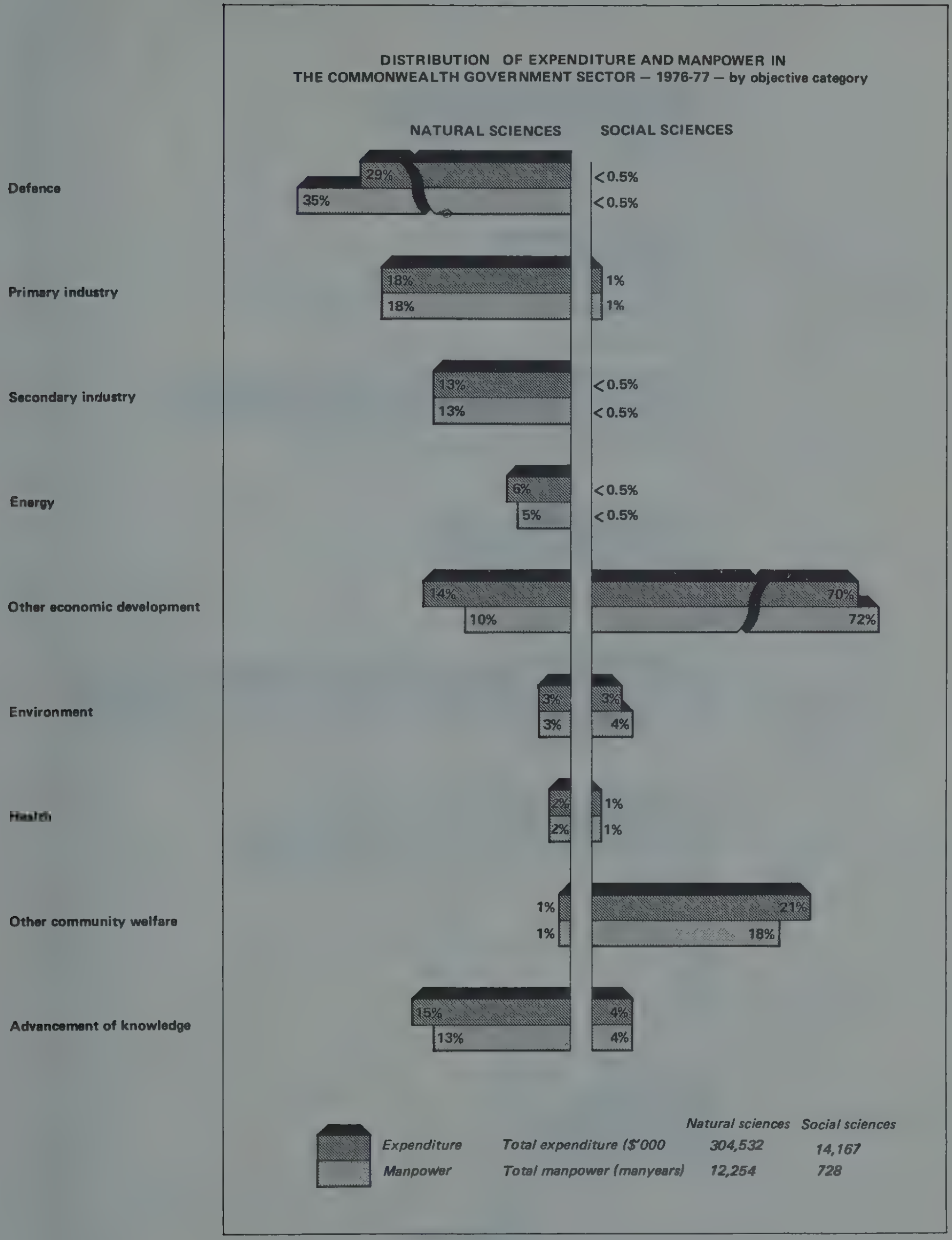
(*d*) Intramural expenditure on R & D in the natural sciences and in the social sciences was distributed as follows:

	per cent
Natural sciences	96
Social sciences	4

(Humanities research was negligible in this sector.)

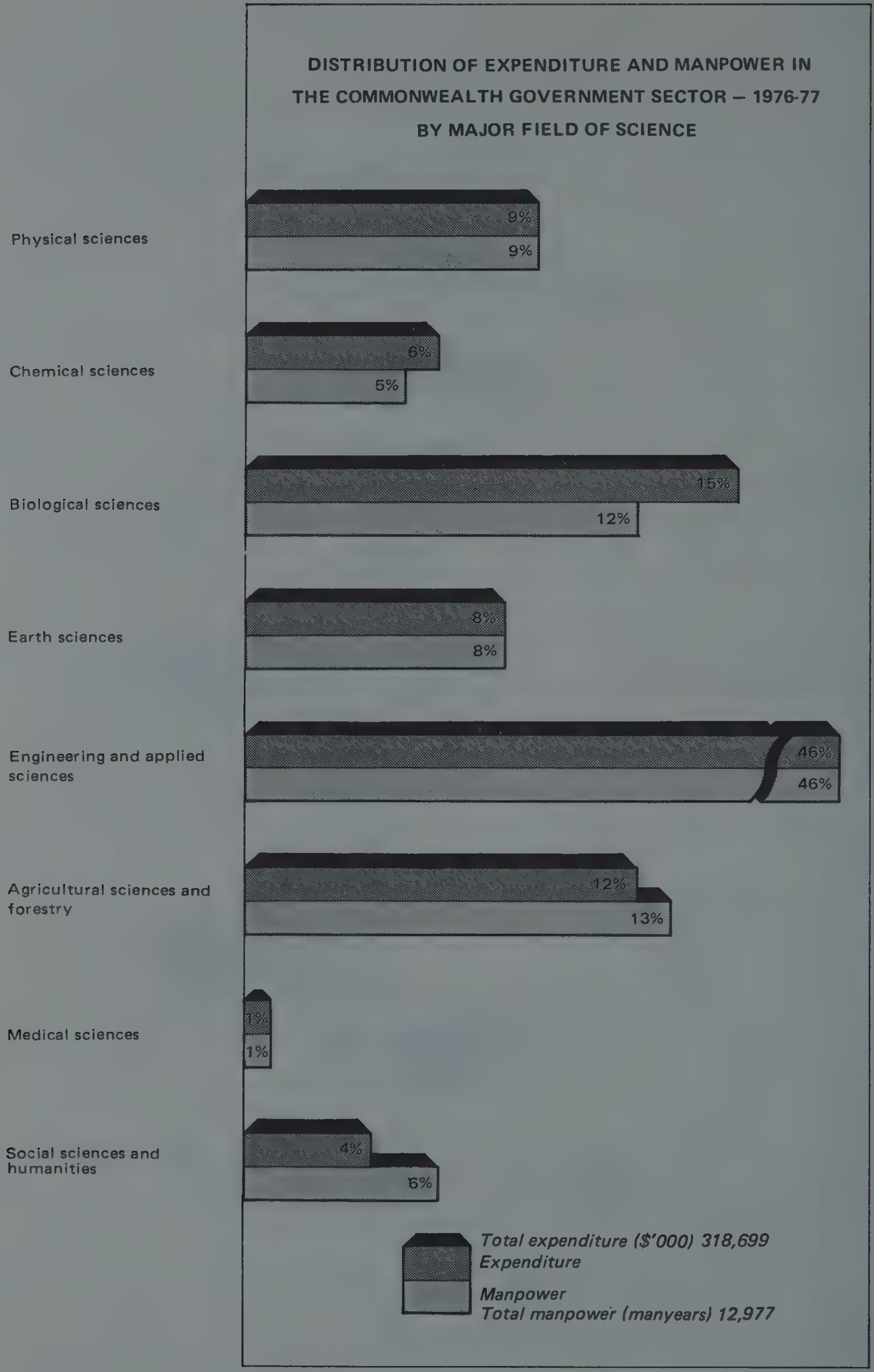
46 per cent of the total effort was in Engineering and Applied Sciences, the dominant major field of science in the natural sciences.

A diagrammatic representation of the principal ways in which Commonwealth Government support is channelled into R & D is shown in Plate 51, page 709.



DISTRIBUTION OF EXPENDITURE AND MANPOWER IN THE COMMONWEALTH GOVERNMENT SECTOR — 1976-77 — by objective category

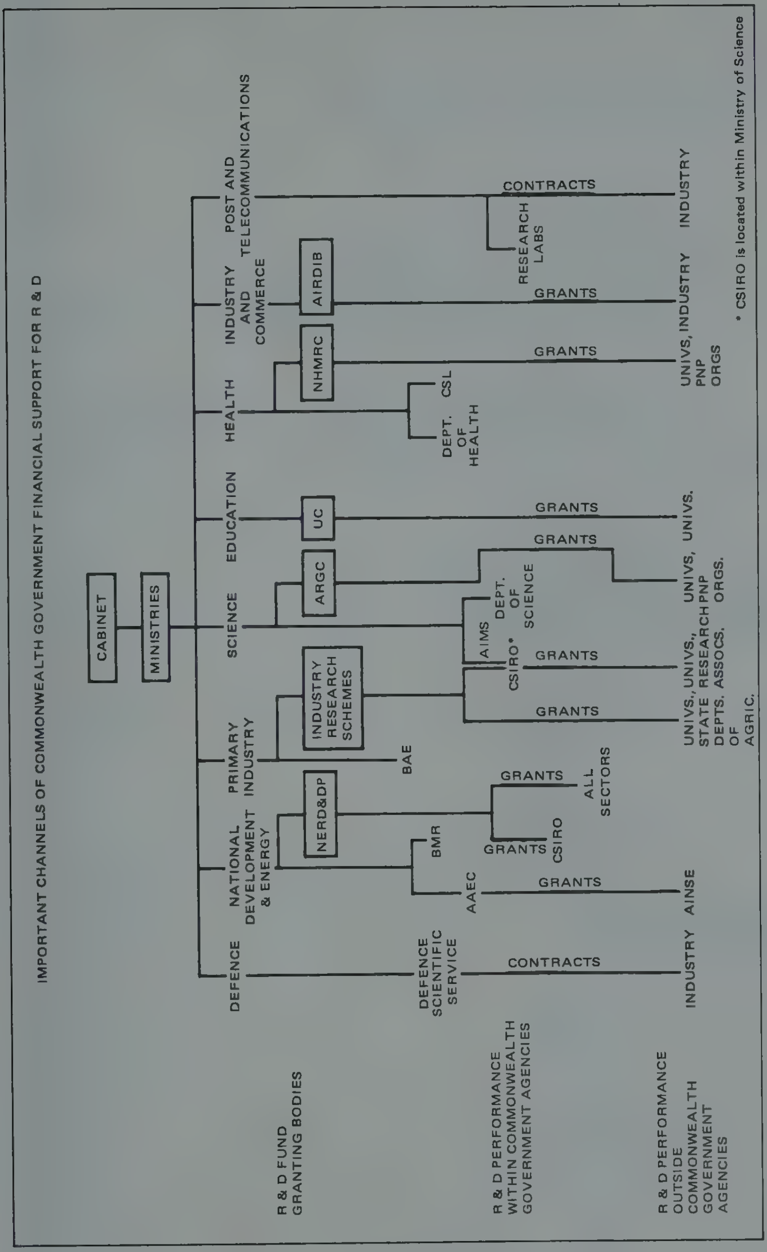
PLATE 49



DISTRIBUTION OF EXPENDITURE AND MANPOWER IN THE COMMONWEALTH GOVERNMENT SECTOR — 1976-77 BY MAJOR FIELD OF SCIENCE

PLATE 50

IMPORTANT CHANNELS OF COMMONWEALTH GOVERNMENT FINANCIAL SUPPORT FOR R & D


CABINET
MINISTRIES
DEFENCE
NATIONAL DEVELOPMENT & ENERGY
PRIMARY INDUSTRY
SCIENCE
EDUCATION
HEALTH
INDUSTRY AND COMMERCE
POST AND TELECOMMUNICATIONS
R & D FUND GRANTING BODIES
NERD&DP
INDUSTRY RESEARCH SCHEMES
ARGC
UC
NHMRC
AIRDIB
R & D PERFORMANCE WITHIN COMMONWEALTH GOVERNMENT AGENCIES
DEFENCE SCIENTIFIC SERVICE
AAEC
BMR
GRANTS
CSIRO
GRANTS
ALL SECTORS
BAE
CSIRO*
AIMS
DEPT. OF SCIENCE
DEPT. OF HEALTH
CSL
RESEARCH LABS
CONTRACTS
GRANTS
GRANTS
GRANTS
GRANTS
GRANTS
GRANTS
GRANTS
CONTRACTS
R & D PERFORMANCE OUTSIDE COMMONWEALTH GOVERNMENT AGENCIES
INDUSTRY
AINSE
UNIVS., STATE DEPTS. OF AGRIC.
UNIVS., RESEARCH ASSOCS.
UNIVS, PNP ORGS.
UNIVS.
UNIVS, PNP ORGS
INDUSTRY
INDUSTRY

* CSIRO is located within Ministry of Science

ABBREVIATIONS USED:

AECC	Australian Atomic Energy Commission	UC	Universities Commission
AIMS	Australian Institute of Marine Science	BMR	Bureau of Mineral Resources
AINSE	Australian Institute of Nuclear Science and engineering	BAE	Bureau of Agricultural Economics
AIRDIB	Australian Industrial Research & Development Incentives Board	CSIRO	Commonwealth Scientific and Industrial Research Organisation
ARGC	Australian Research Grants Committee	CSL	Commonwealth Serum Laboratories
		NERD&DP	National Energy Research Development and Demonstration Program
		NHMRC	National Health and Medical Research Council
		PNP ORGS	Private Non-Profit Organisations

PLATE 51

State Government sector. Within the State Government sector the overall intramural expenditure on R & D was $132 million, representing 0.9 per cent of State Government outlays ($14,992 million). Manpower involved in this R & D effort was 6,800 man-years. Of this effort, about 2,800 man-years were attributed to workers holding professional qualifications. Distribution of this expenditure and manpower effort by objectives and field of science is shown in Plates 52 and 53, pages 711 and 712. Other major features were:

Within socio-economic objectives, Economic development accounted for 83 per cent of intramural R & D expenditure. The remaining expenditure was distributed between Community welfare (14 per cent) and Advancement of knowledge (3 per cent). Expenditure in the Economic Development Group was distributed between sub-groups as follows:

	per cent
Primary industry	66
Economic services (excluding energy)	10
Secondary industry	4
Energy	3

Expenditure in the Primary Industry Sub-Group was distributed between the objectives:

	per cent
Agriculture	59
Forestry	5
Fisheries	3

In every State, the Department of Agriculture was by far the largest performer of R & D.

Intramural expenditure on R & D in the natural sciences and in the social sciences and humanities was distributed as follows:

	per cent
Natural sciences	94
Social sciences and humanities	6

62 per cent of the total effort was in Agricultural sciences, the major field of science in the natural sciences.

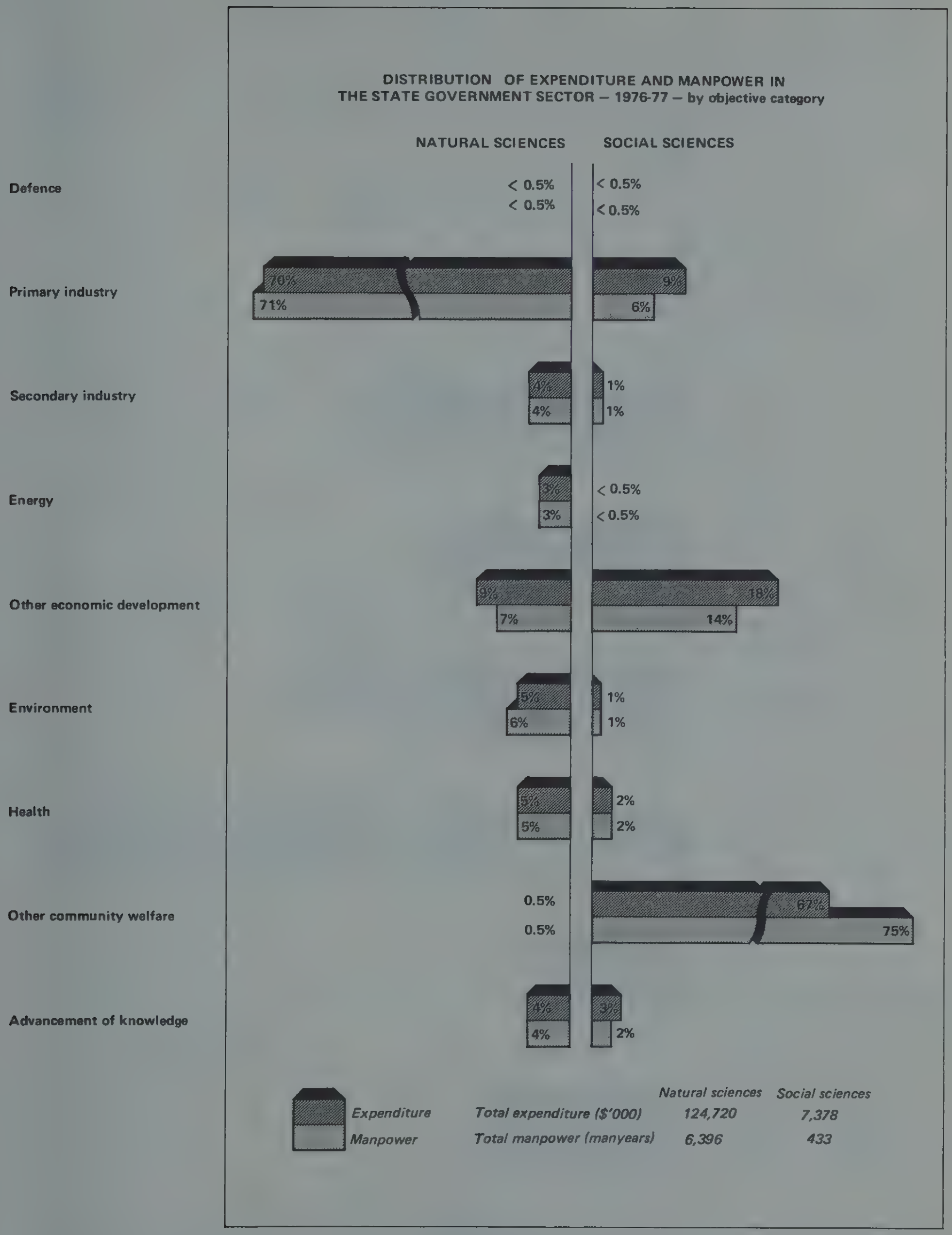
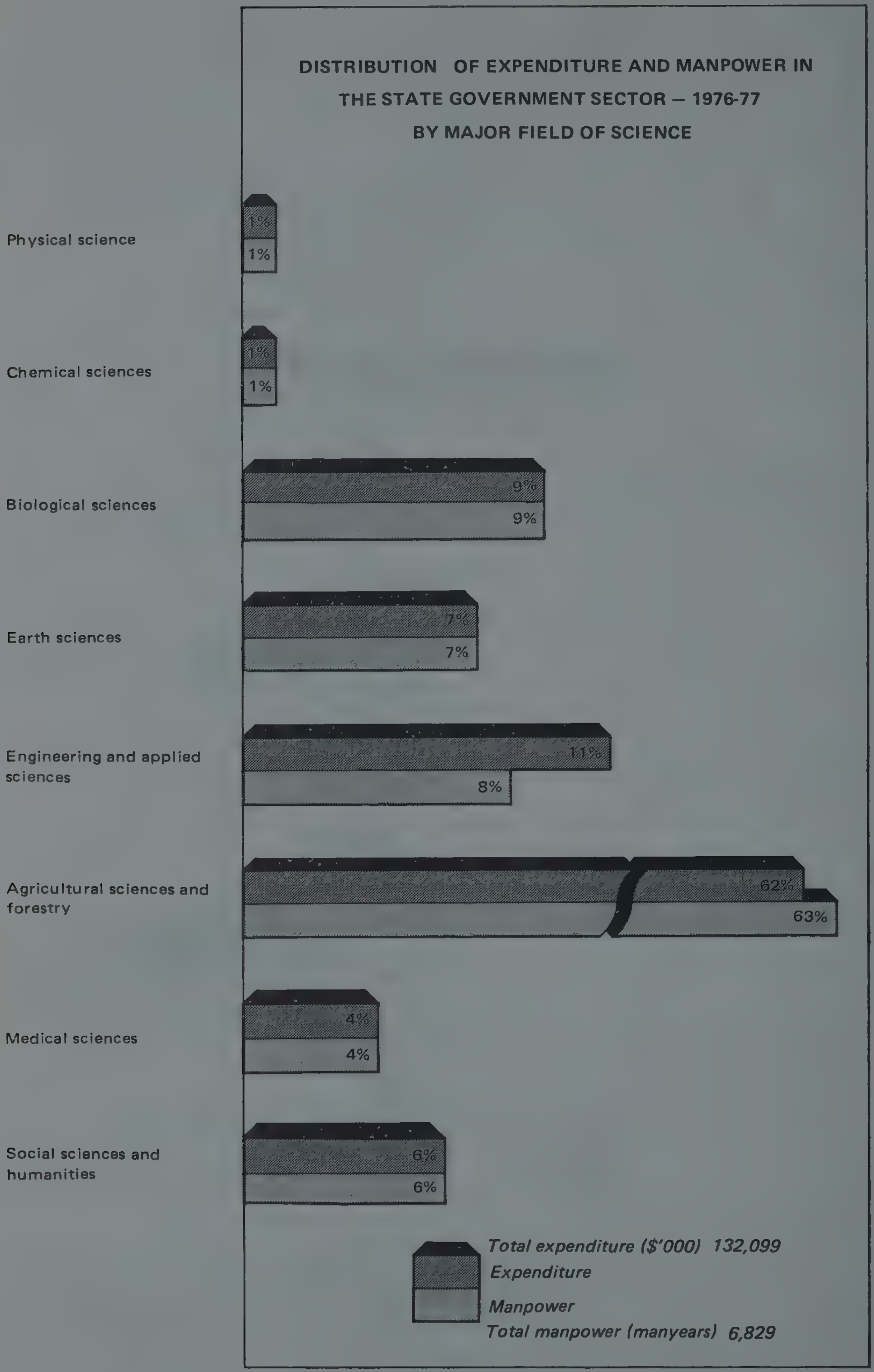

DISTRIBUTION OF EXPENDITURE AND MANPOWER IN THE STATE GOVERNMENT SECTOR — 1976-77 — by objective category
NATURAL SCIENCES
SOCIAL SCIENCES
Defence
< 0.5%
< 0.5%
< 0.5%
< 0.5%
Primary industry
70%
71%
9%
6%
Secondary industry
4%
4%
1%
1%
Energy
3%
3%
< 0.5%
< 0.5%
Other economic development
9%
7%
18%
14%
Environment
5%
6%
1%
1%
Health
5%
5%
2%
2%
Other community welfare
0.5%
0.5%
67%
75%
Advancement of knowledge
4%
4%
3%
2%
Expenditure
Manpower
Natural sciences
Social sciences
Total expenditure ($'000)
124,720
7,378
Total manpower (manyears)
6,396
433

PLATE 52



DISTRIBUTION OF EXPENDITURE AND MANPOWER IN THE STATE GOVERNMENT SECTOR – 1976-77 BY MAJOR FIELD OF SCIENCE

PLATE 53

Private non-profit sector. In this sector the intramural expenditure on R & D was $11 million. The manpower involved in this effort was 580 man-years of which about 260 man-years were attributed to workers who held professional qualifications. Within socio-economic objectives, the Community welfare group accounted for 94 per cent of R & D expenditure. Within this sector almost 76 per cent of R & D was performed by ten medical research institutes.

Higher education sector. The gross intramural expenditure on R & D in this sector was $184 million, consisting of $75 million directly spent on research in the universities, together with an estimated value of $105 million for R & D performed in combined teaching and research activities. Colleges of Advanced Education accounted for the remaining $4 million, giving a gross expenditure of $184 million. The manpower involved in this effort was 15,300 man-years.

An analysis of expenditure and manpower effort according to field of science is shown in the following table.

EXPENDITURE AND MANPOWER DEVOTED TO R & D IN AUSTRALIA IN 1976-77
HIGHER EDUCATION SECTOR

	Expenditure		*Manpower*	
	$'000	per cent	man-years	per cent
Physical sciences	21,371	12	1,485	10
Chemical sciences	14,393	8	1,136	7
Biological sciences	29,597	16	2,518	16
Earth sciences	9,046	5	748	5
Engineering	19,622	11	1,786	12
Medical sciences	25,893	14	1,692	11
Agricultural	11,305	6	1,096	7
Social science and humanities	53,092	29	4,828	32
Total	**184,322**	**100**	**15,290**	**100**

Private enterprise sector. The gross intramural expenditure on R & D in the Private enterprise sector was $157 million, representing 0.19 per cent of Australia's 1976-77 GDP. The manpower involved in this effort was 7,900 man-years, representing 0.12 per cent of the total effort of the Australian workforce. Figures for expenditure and manpower effort according to industry are shown in the following table.

EXPENDITURE AND MANPOWER DEVOTED TO R & D IN AUSTRALIA IN 1976-77
BUSINESS ENTERPRISE SECTOR

	Expenditure		*Manpower*	
Industry	$'000	per cent	man-years	per cent
Food, beverages and tobacco	12,450	8	588	7
Paper and printing	2,707	2	116	1
Chemicals	32,790	21	1,530	19
Non-metallic mineral products	6,680	4	300	4
Basic metal products	12,432	8	663	8
Fabricated metal products	5,398	3	307	4
Transport equipment	16,774	11	861	11
Other machinery and equipment	44,694	29	2,375	30
Other manufacturing	7,481	5	379	5
Mining (excluding services)	6,693	4	405	5
Services to mining	3,649	2	156	2
Other industries	4,884	3	215	3
Total	**156,632**	**100**	**7,895**	**100**

Resources and services

Although power to regulate the development and utilisation of Australia's natural resources rests largely with the States, the Commonwealth Government, in part because of its jurisdiction in the control of Australia's overseas trade, also plays an important role. Extensive machinery exists for consultation and collaboration between the Commonwealth and State governments in relation to the development and management of natural resources.

Several important resources and services are dealt with elsewhere in this Year Book and are thus not included in this chapter. These include health (Chapter 10), the rural industry (Chapter 13), forestry (Chapter 14), fisheries (Chapter 14), water (Chapter 15), the mineral industry (Chapter 16), transport (Chapter 20), and communications (Chapter 20).

Soil resources

A Standing Committee on Soil Conservation was established in 1964. It comprises the heads of soil conservation bodies in the States and representatives of relevant Commonwealth agencies. The Committee co-ordinates activities of interest to its member bodies such as the survey of erosion throughout Australia which was carried out in the late 1960s, and the development of co-operative arrangements for in-service training of technical personnel.

Fauna and flora resources

During the last century, as each State became established, museums and botanical gardens containing herbaria were set up. Studies of fauna and flora were carried out by these bodies and by the universities. Various divisions of CSIRO have also carried out work on fauna and flora, but an important part of total Australian research into inventorying biological resources continues to be undertaken in the museums and herbaria of the State governments.

In 1973, the Commonwealth Government set up the Australian Biological Resources Study (ABRS) under an Interim Council. Funds were made available through it to stimulate taxonomic and ecological studies of Australian fauna and flora. In 1978, following recommendations by the Interim Council and by the Australian Science and Technology Council, ABRS was established as a continuing program within the Department of Science and the Environment.

Funds are made available through ABRS on the recommendation of an Advisory Committee to the Minister for Science and the Environment for work designed to fill the gaps in the scientific knowledge of the Australian fauna and flora. The role of ABRS is to co-ordinate all work aimed at collecting, describing, classifying and determining the distribution of Australian animals and plants. Its responsibilities include the maintenance of a comprehensive network of national taxonomic collections and a national taxonomic data bank. Its current major projects are the writing of a concise flora of Australia, the compilation of an Australian Faunal List and the establishment of an Australian Biotaxonomic Information System.

Fauna and flora conservation

Responsibility for the conservation and management of fauna and flora resources rests, in the main, with the State Governments. However, the Commonwealth has responsibility for such resources in its own Territories.

In 1975, the Commonwealth Government established the Australian National Parks and Wildlife Service, whose functions include care and management of national parks and wildlife in Australia and its Territories, conduct of ecological studies to determine additional areas which should be reserved as national parks and nature reserves, and survey and assessment of wildlife populations with particular reference to endangered species.

Environmental protection

Responsibility for most pollution control aspects of environmental protection rests with the State Governments, which have all enacted legislation to control the operations of government and private enterprises that may have a deleterious effect on the physical environment.

The Commonwealth Government is responsible for pollution control in its own Territories and in respect of the operation of its own agencies within the States. It is also concerned with the enforcement of provisions of relevant international conventions to which Australia is a signatory.

Both the Commonwealth and State Governments also have legislation or procedures for assessing the environmental impact of proposed actions that may have a significant effect on the environment. These procedures generally provide for the preparation of environmental impact statements—sometimes allowing for public review—as a prerequisite to approval of new development projects or other activities with significant environmental consequences.

The various governments collaborate in environmental and conservation matters through three Ministerial Councils: the Australian Environment Council, which provides a framework for consultation on environmental matters; the Council of Nature Conservation Ministers, which is concerned with preservation of wildlife and the establishment and management of national parks; and the Australian Water Resources Council which is concerned with the assessment, development and use of national water resources.

Special arrangements have been made for minimising the environmental impact of uranium developments in the Northern Territory. An Office of the Supervising Scientist has been established under Commonwealth legislation. The Supervising Scientist has overall responsibility for the co-ordination and supervision of measures for the protection and restoration of the environment in the Alligator Rivers Region from the effects of uranium mining. The Supervising Scientist also manages the Alligator Rivers Region Research Institute.

Meteorology

The Bureau of Meteorology, which is a Division of the Department of Science and the Environment, is the national authority for providing weather forecasting and warning services, and general meteorological information and consultative advice. Users of these services include the general public, defence forces, civil aviation and marine authorities, and specialist groups in primary and secondary industries.

Programs of research are carried out in support of these services, often in co-operation with other institutions concerned with meteorological science including universities and the CSIRO. The Australian Numerical Meteorology Research Centre, which specialises in the development of numerical model techniques for predicting atmospheric behaviour, is operated jointly by the Department of Science and the Environment and CSIRO.

Total expenditure by the Bureau in 1978–79 was approximately $38.7 million.

Ionospheric Prediction Service

The Ionospheric Prediction Service (IPS) Branch of the Department of Science and the Environment exists to assist users of radio communications to achieve the most effective and efficient use of radio transmissions that are influenced by or dependent on the ionosphere. The staff of the Branch make regular measurements of the ionosphere above Australia and its territories, and of the sun, and issue both short and long term predictions of the state of the ionosphere as it applies to radio communication.

Research into physical phenomena affecting the condition of the ionosphere forms part of the regular activity of the IPS.

Satellite remote sensing

In 1978 the Commonwealth Government decided to establish facilities for receiving and processing information from the U.S. National Aeronautics and Space Administration's series of Landsat satellites. The Department of Science and the Environment is managing this project. A data receiving station is under construction in Alice Springs and data processing equipment is being procured for installation in Canberra. Additional information on Landsat stations is provided at pages 722–4 of this Year Book.

Scientific and Technological Information Services

Scientific literature for scientists and technologists is provided through national and State libraries, libraries operated by scientific and technological agencies of the Commonwealth and State Governments, tertiary education institutions and industrial organisations. Two important scientific libraries within the Commonwealth Government sector are the CSIRO Central Library and the Australian National Scientific and Technological Library.

Several Commonwealth Agencies including the Australian Atomic Energy Commission, the CSIRO, the Department of Productivity and the National Library of Australia are now offering Australian subscribers access to overseas bibliographic and numerical data bases. The Overseas Telecommunications Commission is developing an international data transmission service to be known as MIDAS (Multi-mode International Data Acquisition Service) which should improve access to international data stores.

Another overseas trend now arousing interest amongst Australian scientists is the development of numerical data bases which provide quick access to factual data. The CSIRO is currently operating Thermodata, a metallurgical thermodynamic data base, and is in the process of developing other similar data bases.

A number of Australian scientific and technological indexes and directories now exist or are in the course of production by Commonwealth Government departments and agencies. Two recent initiatives are:

- a Directory of Technical Information Sources for Industry which has been produced by the National Library of Australia; and
- a directory of Australian research projects undertaken in the natural sciences and selected social sciences in the Higher education sector. The directory, in microfiche form, was produced by the Department of Science and the Environment (in conjunction with its work on Project SCORE) and the CSIRO.

Units and Standards of Physical Measurement

The National Standards Commission, originally established in 1948 and given further responsibilities under the *Weights and Measures (National Standards) Act* 1960, advises on matters relating to weights and measures such as the establishment and use of uniform units and standards of measurement of physical quantities. The Commission is also responsible for the examination, approval and certification of the design and performance of patterns of measuring instruments used for trade, Australian participation in the preparation of international standards applicable to legal metrology and their subsequent adoption, and liaison with State government on the regulation of weighing and measuring practice in trade.

Major government research agencies

Commonwealth Scientific and Industrial Research Organization (CSIRO)

The CSIRO is the largest scientific research organization in Australia. It has a total staff of some 7,000 people located in more than 100 laboratories and field stations throughout Australia. About one-third of the staff are scientists.

The CSIRO is a statutory body established by the *Science and Industry Research Act* 1949. Under the Act CSIRO replaced, but had continuity with, the former Council for Scientific and Industrial Research (CSIR) which was established in 1926. The *Science and Industry Research Act* 1949 as amended by the *Science and Industry Research Amendment Act* 1978 provides that the functions of CSIRO are:

- to carry out scientific research for any of the following purposes:
  (i) assisting Australian industry;
  (ii) furthering the interests of the Australian community;
  (iii) contributing to the achievement of Australian national objectives or the performance of the national and international responsibilities of the Commonwealth;
  (iv) any other purpose determined by the Minister;
- to encourage or facilitate the application or utilization of the results of such research;
- to act as a means of liaison between Australia and other countries in matters connected with scientific research;
- to train, and to assist in the training of, research workers in the field of science and to co-operate with tertiary-education institutions in relation to education in that field;
- to establish and award fellowships and studentships for research, and to make grants in aid of research for a purpose referred to in scientific research above;
- to recognize associations of persons engaged in industry for the purpose of carrying out industrial scientific research and to co-operate with, and make grants to, such associations;
- to establish, develop and maintain standards of measurement of physical quantities and, in relation to those standards—
  (i) to promote their use;
  (ii) to promote, and participate in, the development of calibration with respect to them; and
  (iii) to take any other action with respect to them that the Executive thinks fit;
- to collect, interpret and disseminate information relating to scientific and technical matters; and
- to publish scientific and technical reports, periodicals and papers.

The Act provides for CSIRO to be governed by an Executive comprising a full-time Chairman, two other full-time Members and between three and five part-time Members. It also provides for a statutory Advisory Council and State Committees as independent sources of advice to the Executive.

The CSIRO's research is carried out in some thirty seven divisions and five smaller units. The divisions and units are grouped into the following five Institutes:

Institute of Animal and Food Sciences Divisions of Animal Health, Animal Production, Food Research, Human Nutrition; Centre for Animal Research and Development; Molecular and Cellular Biology Unit; Wheat Research Unit.

Institute of Biological Resources Divisions of Entomology, Fisheries & Oceanography, Forest Research, Horticultural Research, Irrigation Research, Plant Industry, Tropical Crops & Pastures, Wildlife Research.

Institute of Earth Resources Divisions of Applied Geomechanics, Land Resources Management, Land Use Research, Mineral Chemistry, Mineral Engineering, Mineralogy, Mineral Physics, Process Technology, Soils; Fuel Geoscience Unit.

Institute of Industrial Technology Divisions of Applied Organic Chemistry, Building Research, Chemical Technology, Mechanical Engineering, Protein Chemistry, Textile Industry, Textile Physics.

Institute of Physical Sciences Divisions of Applied Physics, Atmospheric Physics, Chemical Physics, Cloud Physics, Computing Research, Environmental Mechanics, Materials Science, Mathematics and Statistics, Radiophysics; Australian Numerical Meteorology Research Centre.

There is also a Bureau of Scientific Services comprising the Central Information, Library and Editorial Section, the Centre for International Research Co-operation and various groups concerned with information and technology transfer.

The CSIRO has an annual budget of more than $150 million. Some 85 per cent of this money is provided directly by the Commonwealth Government. The remainder is contributed by trust funds concerned with the wool, meat, wheat, dairying, fishing and dried fruit industries, by individual companies, by Australian and overseas government instrumentalities, and by private foundations. The trust funds constitute approximately two-thirds of these contributory funds. They are derived principally from industry levies supported by Commonwealth Government contributions.

The Australian Atomic Energy Commission (AAEC)

For information on AAEC *see* Chapter 18, Energy.

Antarctic Division, Department of Science and the Environment

Australia has been active in research and exploration in the Antarctic region since early in the present century, but the overall effort has expanded appreciably since the 1940s when the Government established the Australian National Antarctic Research Expeditions (ANARE) and the Antarctic Division.

At any given time the total staff complement of the Division varies between 170 and 220 persons, about half of whom are engaged on a short-term basis to man annual expeditions and provide general support. Expenditure by the Division in 1978–79 was approximately $9.64 million.

Services provided by the Antarctic Division in relation to research expeditions include:

- the supply and maintenance of three permanent stations in the Australian Antarctic Territory on the Antarctic continent and one on sub-Antarctic Macquarie Island;
- the mounting of annual and shorter-term research expeditions;
- the co-ordination of activities of agencies involved with ANARE (which include the Antarctic Division itself, the Bureau of Meteorology and the Ionospheric Prediction Service of the Department of Science and the Environment); the Bureau of Mineral Resources, Geology and Geophysics, and the Division of National Mapping of the Department of National Development; certain sections of the Army; various university departments; and the CSIRO.

In addition to its general support function, the Division directly undertakes research in such fields as cosmic ray and upper atmosphere physics, glaciology, Antarctic biology and medical science matters relevant to Antarctic conditions. In 1977, the Government approved an extension of the Division's scientific program into the marine areas around Antarctica. Personnel at research stations include meteorologists, physicists, glaciologists, biologists and logistic staff.

Australia is a signatory to the Antarctic Treaty, and many of its scientific activities in Antarctica are undertaken in collaboration with other signatory countries.

Australian Institute of Marine Science (AIMS)

The AIMS has been established on a 190 hectare site within a national park at Cape Ferguson, 50 kilometres south of Townsville in North Queensland. Comprehensive headquarters facilities were opened in September, 1977 and include laboratories, lecture theatre, library, computer centre, administrative and other support services. A harbour for the Institute's vessels was completed in April, 1976. A 24.4 metre ocean-going research vessel constructed specifically for the Institute was delivered during October, 1978.

The Institute is essentially concerned with research and emphasises multidisciplinary projects, many of which are focussed on tropical marine science. Research projects at the AIMS during 1978–79 fell into 3 areas: estuarine and oceanic marine food webs; reef-building organisms and the Great Barrier Reef and marine pollution. These areas were selected both for their current importance to marine science and for their relevance to many applied problems. Specific programs being undertaken by the Institute concern: inshore ecology and productivity; pelagic biology; coral taxonomy; coral calcification; reef origins and maintenance; sedimentology; and physical oceanography.

Defence Science and Technology Organisation

The Defence Science and Technology Organisation, Department of Defence, conducts a significant amount of research and development in engineering and the physical sciences. Operational research, human and sociological studies and research into the environment are also carried out. Current expenditure is about $90 million per year.

Further details on the work of the organisation are found in Chapter 4, Defence.

Technology Division, Department of Housing and Construction

To support its operations as the major design and construction authority for the Commonwealth, the Department of Housing and Construction carries out applied research and laboratory testing and provides a comprehensive range of technical services. In many cases, these services directly or indirectly benefit the needs of private industry and the public generally.

Research and special testing is conducted mainly by the Technology Division at establishments such as the Experimental Building Station in Sydney, which specialises in building and building components, and the Central Investigation and Research Laboratory in Melbourne, which specialises in engineering materials and products.

Telecom Australia Research Laboratories

Telecom Australia maintains significant facilities and a staff of approximately 500 for research in telecommunications science and technology.

Research in private industry

Expenditure on research and experimental development performed by private enterprises in 1976-77 was $157 million of which $143 million came from industry's own funds. At current prices this represents an 18 per cent decrease in expenditure since 1973-74. Manpower effort devoted to R & D performed by Private enterprises was 7,895 man years. This represents a decrease of 36 per cent since 1973-74. In addition Private enterprises contributed $10 million towards the cost of R & D performed overseas and in the Higher education, Government and Private non-profit sectors.

The Government provides funding to encourage industrial research and development (IR and D) under the provisions of the *Industrial Research and Development Incentives Act* 1976. Two types of grants are payable under the Act: commencement grants to encourage companies to develop a basic R & D capability; and grants designed to give on-going support for companies with established IR and D facilities to undertake specific IR and D projects showing technical and commercial promise. In 1979-80 commencement grants will be paid at the rate of 50 per cent of eligible expenditure up to a ceiling of $25,000, and project grants at 50 per cent of eligible expenditure up to a ceiling of $500,000. In addition the Minister for Productivity is empowered under the Act to approve full funding of projects considered to be in the 'public interest'. $27 million was appropriated in the 1979-80 Budget for the Industrial Research and Development Incentives Scheme. A further $9 million was appropriated for industry technology programs, including $4 million for 'public interest' projects.

The Assistance to Inventors' Scheme provides financial grants to individual inventors to enable them to develop worthwhile inventions, after patent application, to the prototype or demonstration stage. Grants of up to $10,000 can be provided for each invention, as well as technical, industrial or commercial advice on how to develop the invention. Government assistance for research and development by private industry is also available through grants from the *National Energy Research Development and Demonstration Council* (NERDDC) (*see* page 460 of the Energy chapter for additional information on NERDDC) and the *Australian Research Grants Committee.*

Payments Overseas for Technical Know-How

Australian R & D efforts have been significantly supplemented by overseas technology largely associated with the activities of foreign firms. Australian firms in many industries have bought or licensed foreign technology. According to Project SCORE Australian Private enterprises made total payments overseas during 1976-77 of approximately $65 million for patent rights and other technical know-how e.g. patent licences, technical data and information and scientific, technical, or engineering assistance which increased technical knowledge and understanding within the enterprise. Of this, approximately $35 million was paid to the U.S.A. and approximately $14 million to the U.K. Australian private enterprises received payments of approximately $7 million from overseas for the sale of technical know-how. The adoption by industry of new technology also attracts financial support from the Commonwealth through the *Industrial Design Council of Australia* and the *Standards Association of Australia* which receive subsidies from the Commonwealth Government.

Metric Conversion

The conversion to the metric (SI) system of weights and measures is now well advanced in Australia. The conversion program has been developed and implemented under the guidance of a

Metric Conversion Board established by the Commonwealth Government. The Board considers that the conversion will be effectively achieved by 1980 as originally envisaged, although it has always been recognised that some residual use of imperial units will continue for a time thereafter, e.g. in association with equipment of long life. The implementation of the program has depended in large measure on general community co-operation. The Board sought and gained assistance from advisory groups representative of all sectors of the community.

The Australian Patent Information Service

The Australian Patent Information Service has recently been formed with the major purpose of making Australian industry aware of the wealth of technological information contained in the world collection of patent specifications held by the Patents Office. The Service is available to assist industry to gain access to this information by providing copies of patent specifications (Australian and foreign), covering the relevant area(s) of technology in which an inquirer is interested.

Industry organisations

A number of organisations aiming, wholly or in part, to support and encourage R & D have been established within industry. By far the majority support sectional interests. Examples of such organisations are the Bread Research Institute and the Australian Mineral Industries Research Association.

Research in universities and colleges

General financial support for Higher education is provided primarily by the Commonwealth Government through the Councils of the Tertiary Education Commission (the Universities Council; and Technical and Further Education Council; and the Advanced Education Council).

In addition, the Government funds research undertaken in the universities and elsewhere through a number of granting schemes. In some cases, Commonwealth Government funds are supplemented by State governments or by levies imposed on or by specific industries (e.g. the wool, wheat and beef industries) for that purpose.

The two principal granting schemes through which supplementary funds are made available for research in universities are those administered by the Australian Research Grants Committee (ARGC), and the National Health and Medical Research Council (NHMRC). For both schemes the principal criteria for awards are the scientific excellence of the applicant and the research project. Applications are judged by expert advisory committees composed of practising scientists, and recommendations are made to the Minister for Science and the Environment and the Minister for Health for the ARGC and NHMRC awards respectively.

The Commonwealth Department of Health administers the Health Service Research and Development Grant program which provides grants to researchers in educational and health institutions and to independent researchers. The Department receives advice from the Health Services Research and Development Grants Advisory Committee.

Fellowships such as the Queen Elizabeth the Second Fellowships and the like, while providing some additional funds, are significant more for the prestige they carry than for their contribution to overall funding levels. They are, however, more readily available to the young scientists than are the ARGC awards.

Colleges of Advanced Education do not maintain expensive research facilities or programs akin to those of the universities; nevertheless, staff are encouraged to undertake research to the extent that this is possible. Research of an applied nature, and associated consultancy services to industry and commerce, are expected to become increasingly prominent within the colleges.

Research organisations associated with education institutions

Several of the tertiary education institutions have established independent, commercial companies to promote and manage research and consultancy services to industry, commerce, government and the community. Examples are: Unisearch Ltd, associated with the University of New South Wales; Wait-Aid Ltd, associated with the Western Australian Institute of Technology; Technisearch Ltd, associated with the Royal Melbourne Institute of Technology; SARD, associated with the Swinburne College of Technology; Techsearch Inc., associated with the South Australian Institute of Technology; and TUNRA, the University of Newcastle Research Association.

These organisations play an important role in promoting communication between the Higher education and other sectors. They undertake investigational and research projects, mainly in the fields of engineering and science. However, activities in other fields such as management, marketing and the social sciences are increasing. Testing work, performed generally by full-time employees, is undertaken in some instances. Results of work are confidential to the client and are not published unless authorised by that client.

Social science research

Research in the social sciences is undertaken primarily in universities and agencies of the Australian and State governments. Financial support for research in non-government bodies, especially universities, is provided by government. This support comes both from general funds, provided to the universities and also from specific granting bodies such as the ARGC and the Australian Advisory Committee on Research and Development in Education.

The bulk of social science research carried out within Commonwealth Government agencies is performed as part of the general activities of various departments. However, several agencies have been established specifically to undertake research. Agencies which have been established to undertake research in particular areas include the Australian Institute of Aboriginal Studies, the Australian Institute of Criminology, the Bureau of Agricultural Economics and the Bureau of Transport Economics.

Agencies of the various State governments undertake research relevant to their own activities and programs especially related to health, youth and community services. A number of research organisations in the transport spheres are funded from both Commonwealth and State sources. The Australian Railway Research Board and the Australian Railway Research and Development Organisation are active in social science research.

Exchange of ideas and information on the social sciences is promoted through a number of professional and learned bodies, of which the Australian and New Zealand Association for the Advancement of Science and the Academy of the Social Sciences in Australia are the most broadly based. In addition to encouraging the advancement of the social sciences, the Academy sponsors and organises research, subsidises publications and acts as a consultant and advisor on the social sciences.

Non-government bodies which undertake or promote research in specific fields of the social sciences include the Australian Institute of International Affairs, the Australian Institute of Urban Studies, and the Australian Institute of Political Science.

International activities

International Organisations

Australia participates in a range of United Nations Environment Program activities and in the activities of both governmental and non-governmental international scientific organisations. To facilitate scientific liasion and representation, some Government agencies have scientific and technological representation at overseas posts (e.g. Japan, United Kingdom, United States of America, USSR, the International Atomic Energy Association and the OECD). Australia also plays an active role in regional bodies such as ESCAP (formerly ECAFE), the Pacific Science Congress, and the Association for Science Cooperation in Asia, and has provided technical assistance to countries in the region under both multilateral and bilateral arrangements.

Australia participates in the programs of the Committee for Scientific and Technological Policy of the OECD.

Participation in international non-governmental scientific bodies is arranged through learned and professional bodies. For example, the Australian Academy of Science provides representation to the International Council of Scientific Unions (ICSU) and a number of its affiliated bodies.

Studentships and Fellowships

Australia has assisted other countries, principally in the Asian and Pacific regions, by training their nationals. Large numbers of such students, mainly seeking first qualificatons at tertiary level, have been accommodated under schemes such as the Colombo Plan. There are also arrangements under which established scientists from overseas are assisted to undertake study and research in Australia.

Bilateral Arrangements

Various bilateral arrangements at both government and non-government levels have contributed to the development and maintenance of co-operation in science and technology between Australian institutions and scientists and those in other countries. Formal bilateral agreements solely devoted to scientific and technological co-operation have been entered into with the USA (1968), India (1975) and the Federal Republic of Germany (1976) and are administered by the Department of Science and the Environment. Similar agreements with the USSR (1975) and the People's Republic of China (1979) are administered by the Department of Foreign Affairs. Support is provided for both individual visits and specialist seminars over the whole range of civil science. Where opportunities exist, other cooperative projects which depend on special facilities are supported.

A scientific exchange program between the Australian Academy of Science and the Academy Sinica of Peking was initiated in 1976–77. Scientific fields considered most promising are plant physiology, entomology and earth science. A similar exchange program between the Australian Academy of Science and the Japan Society for the Promotion of Science was also initiated during 1977.

Visits to Japan and China by Australian scientists can be supported by the Australia/Japan Foundation and the Australia/China Council.

Meteorology

Australia is a Member of the World Meteorological Organisation (WMO), with the Director of Meteorology being Australia's Permanent Representative on WMO.

Australia operates one of the three World Meteorological Centres in WMO's Global Weather Experiment, which is being conducted from December 1978 to November 1979. The Experiment is of particular relevance to Australian meteorology because of the opportunity to use special systems to observe conditions over the southern oceans where data are normally scarce.

Astronomy

In the field of optical astronomy, the Anglo-Australian Telescope Board, established under the provisions of an international agreement between Australia and the United Kingdom and drawing its funds in equal shares from each country, operates the 3.9 metre Anglo-Australian Telescope at Siding Spring Mountain near Coonabarabran in New South Wales. The Telescope, among the largest in the world, came into full scientific operation during 1975. Its technical excellence and the scientific work which it has made possible have brought it to be widely recognised as the world's foremost optical telescope.

Space

An agreement was signed in 1960 and has been renewed at ten-year intervals by the Governments of Australia and the United States of America to co-operate in the establishment and operation in Australia of space vehicle tracking stations. The agencies for the Australian and American Governments are the Department of Science and the Environment and the National Aeronautics and Space Administration (NASA) respectively.

As part of the world-wide network supporting NASA's space program, the stations track spacecraft in their orbits around the earth or on their journeys into space, receive telemetred data from the spacecraft, and relay radio commands controlling the spacecraft.

The Department of Science and the Environment is responsible for managing, staffing and operating the tracking stations on behalf of NASA. The stations are located at Orroral Valley, Honeysuckle Creek and Tidbinbilla in the Australian Capital Territory. A communications system links them with control centres in the United States of America.

Expenditure by NASA on its tracking station operations in Australia in 1978–79 was approximately $11 million.

An agreement has been signed between the Commonwealth Government and the European Space Agency (ESA) for the establishment and operation of a space vehicle tracking facility in Australia in support of ESA programs. The facility will be located at the site of the Overseas Telecommunications Commission (Aust) earth station at Carnarvon, W.A., and is expected to be operational before June 1980.

Scientific Ballooning

The Australian Balloon Launching Station (ABLS) at Mildura, Victoria is operated by the Department of Science and the Environment under a joint-sponsorship arrangement with the US National Science Foundation. The station provides a service for scientific research, requiring the use of high altitude balloons, to research workers from the USA, Australia and other countries. Research objectives are generally either in the fields of X-ray and gamma-ray astronomy or atmospheric studies.

Seismology

A comprehensive seismic station at Alice Springs (Joint Geological and Geophysical Research Station) is operated jointly under an agreement between the Governments of Australia and the United States of America. The agencies for the Governments are, respectively, the Department of Science and the Environment and the United States Air Force.

The station provides continuous seismic records to assist the United States Government in the identification of underground nuclear explosions and, through the Department of Science and the Environment provides seismic records to the Bureau of Mineral Resources, Geology and Geophysics.

Records are also available, through the Department of Science and the Environment, to Australian scientists for research in earth physics.

Defence

In the field of defence science, Australia collaborates with other countries through a variety of arrangements at intergovernmental level. Further information is given in Chapter 4, Defence.

Transport

Australia is represented at Federal and State levels on a number of transport research-orientated international organisations through a variety of arrangements at intergovernmental level. Further information is given in Chapter 20, Transport and Communication.

Other

At the non-governmental level, formal arrangements for scientific co-operation with counterpart institutions in other countries have been concluded by a number of Australian bodies. For example, an arrangement covering co-operation in astronomy exists between the University of Sydney and Cornell University (USA), while over a broader area the Australian National University has an arrangement with the University of Moscow which includes exchanges in the scientific fields.

Additional information

Additional information on topics presented in this chapter may be found in the annual reports of the organisations mentioned, particularly the Department of Science and the Environment, the CSIRO and its divisions, the Australian Atomic Energy Commission, and the Department of Defence. Statistical information for the years 1968–69, 1973–74 and 1976–77 may be found in the reports published by the Department of Science and the Environment on Project SCORE. Statistical information on R & D performed by Private enterprises for 1976–77 may be obtained from the Australian Bureau of Statistics publication *Research and Experimental Development—Private Enterprises,* 1976–77 (8104.0). The ABS will publish statistical information for all SCORE sector surveys for 1978–79 and biannually thereafter.

Also relevant are reports published by the former Office of Secondary Industry of the Department of Trade and Industry (*Survey of Industry Research and Development in Australia* (1968–69) and by the former Department of Manufacturing Industry (Bulletin No. 11, November 1974 *R & D in Manufacturing Industry* 1971–72).

Information on manufacturing industry research and development is contained in Chapter 6, Vol. 1A of ASTEC's report on *Science and Technology in Australia* 1977–78 (June 1978) Chapter 7, Vol. 1 of the Report of the Study Group on Structural Adjustment (March 1979) and the Report of the Senate Standing Committee on Science and the Environment on *Industrial Research and Development in Australia* (May 1979).

Landsat Satellite

Australian Landsat Station

Landsat is the name given to a series of U.S. National Aeronautics and Space Administration (NASA) experimental orbiting spacecraft designed to determine the usefulness of satellite-acquired data in managing the environment and natural resources.

To date NASA has launched three Landsat satellites: the first in 1972, the second in January 1975 and the third in March 1978. The first was turned off in January 1978 but data continued to be transmitted from the second and third satellites. A fourth satellite is due to be launched in 1982 and more are contemplated. Other countries such as Japan, the Soviet Union and France have plans to develop remote sensing satellites similar in many ways to Landsat.

For a number of years, Australian Federal and State government agencies, universities and colleges and industry have been investigating the application of Landsat remote sensing data in the Australian context and also the means of processing data electronically to improve its usefulness. For this work, investigators have relied on data recorded on an opportunity basis during satellite passes over Australia and have also had to contend with unavoidable delays in supply of data from the U.S.A.

In August 1977, the Government decided to establish its own receiving and processing facilities in Australia. The decision followed the completion in 1976–77 of an assessment of the value of remote sensing to Australia and took account of the overall technical success of the Landsat series of satellites.

The Landsat system

As a Landsat satellite orbits the Earth, its two main instruments, the multi-spectral scanner and return beam vidicon camera system, each construct images of an 185 km square scene of the Earth below. The multi-spectral scanner sweeps across the scene or segment in four wavelength bands: green (0.5-0.6 micrometres), red (0.6-0.7), infrared 1 (0.7-0.8) and infrared 2 (0.8-1.1). Its photoelectric detectors measure the intensity of sunlight reflecting back from individual units of the Earth's surface just under 80 metres square. These units are the fundamental elements of the picture and are known as pixels, some 7.5 million of which make up a standard 185 km square scene. The light intensity for each pixel is converted into electronic signals and transmitted to an appropriate ground receiving station.

Different materials on the Earth's surface such as water and crops and forests of different types reflect light differently, and the signals reaching the Earth can be measured and reconstructed to show the difference in detail and enable substances to be identified. Resource managers are then able to use photographic images or data classified by computer from magnetic tapes to monitor details of the Earth's surface.

Landsat spacecraft orbit the earth every 103 minutes, passing over each pole and crossing the Equator on the sunlit side of the Earth at the same local time each day, about 9.30 a.m. In this way, the satellites receive reflected sunlight of about the same illumination intensity arising from the same sun angle.

From its position in orbit 917 km above the Earth, each satellite views an area at the surface 185 km square. As each orbit proceeds, the satellite sees and transmits data for a swath 185 km wide, and the whole globe is scanned once every eighteen days. With two satellites in service, a spot on the Earth is scanned once every nine days.

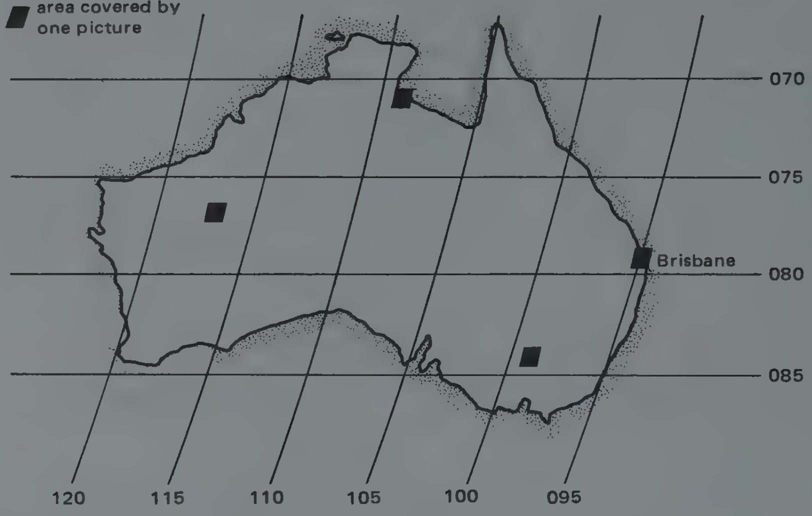
Landsat applications

The advantages offered by remote sensing from space are now generally recognised as synoptic pictures of sizeable areas, acquisition of near real-time data, repeated coverage to record changing phenomena even in areas which have been well surveyed and mapped, reduced data acquisition time, uniform measurements, wide-area coverage reducing the problems of assembling broadscale mosaics, coverage of areas beyond practical range for aircraft, global survey without large on-site support requirements, and reduction in costs for large-scale coverage. While Landsat does not supplant aerial remote sensing, particularly photography, it is an important adjunct to it. For the cost of only a few dollars, Landsat products allow the performance of many monitoring functions which, if carried out by aircraft, would be prohibitively expensive.

Among the applications of Landsat imagery are monitoring of the environment, studies in agriculture and forestry, geography, geology and mineral resources, hydrology and water resources, oceanography and marine resources, the atmosphere and meteorology, and monitoring the effects of national disasters such as floods and bushfires.

In the Australian context, Landsat offers great benefits in agriculture in the management of wheat crops. The broad overview provided by satellite images allows annual planting of crops to be estimated accurately and the development of growth to be monitored for disease and climate stress. With further information, the Australian annual wheat yield can be estimated. Another area of proven benefit has been in mineral exploration, where the broad overview of geological features in areas previously lacking in detailed aerial survey or detailed geological mapping has enabled mineral prospectors to concentrate their search to areas of higher probability of success.

LANDSAT COVERAGE OF AUSTRALIA



The 500 or so landsat pictures of Australia are identified by three-digit path and row numbers. Thus the picture including Brisbane is 095-079. The satellite takes four photographs of each area — in the green, red, near-intrared, and infrared bands of the spectrum.

PLATE 54

Data acquisition and processing facilities

Following the Government decision in 1977 to establish Landsat facilities in Australia, the Department of Science and the Environment took steps to have the Australian Landsat Station fully operational by March 1980. The station is managed by the Department and operated and maintained by private industry under contract to the Department. Formal arrangements between the Department and NASA permitting Australian reception and processing of Landsat data were concluded under a Memorandum of Understanding signed in January 1979.

The $4.2 million station consists of a Data Acquisition Facility at Alice Springs and a Data Processing Facility in Canberra.

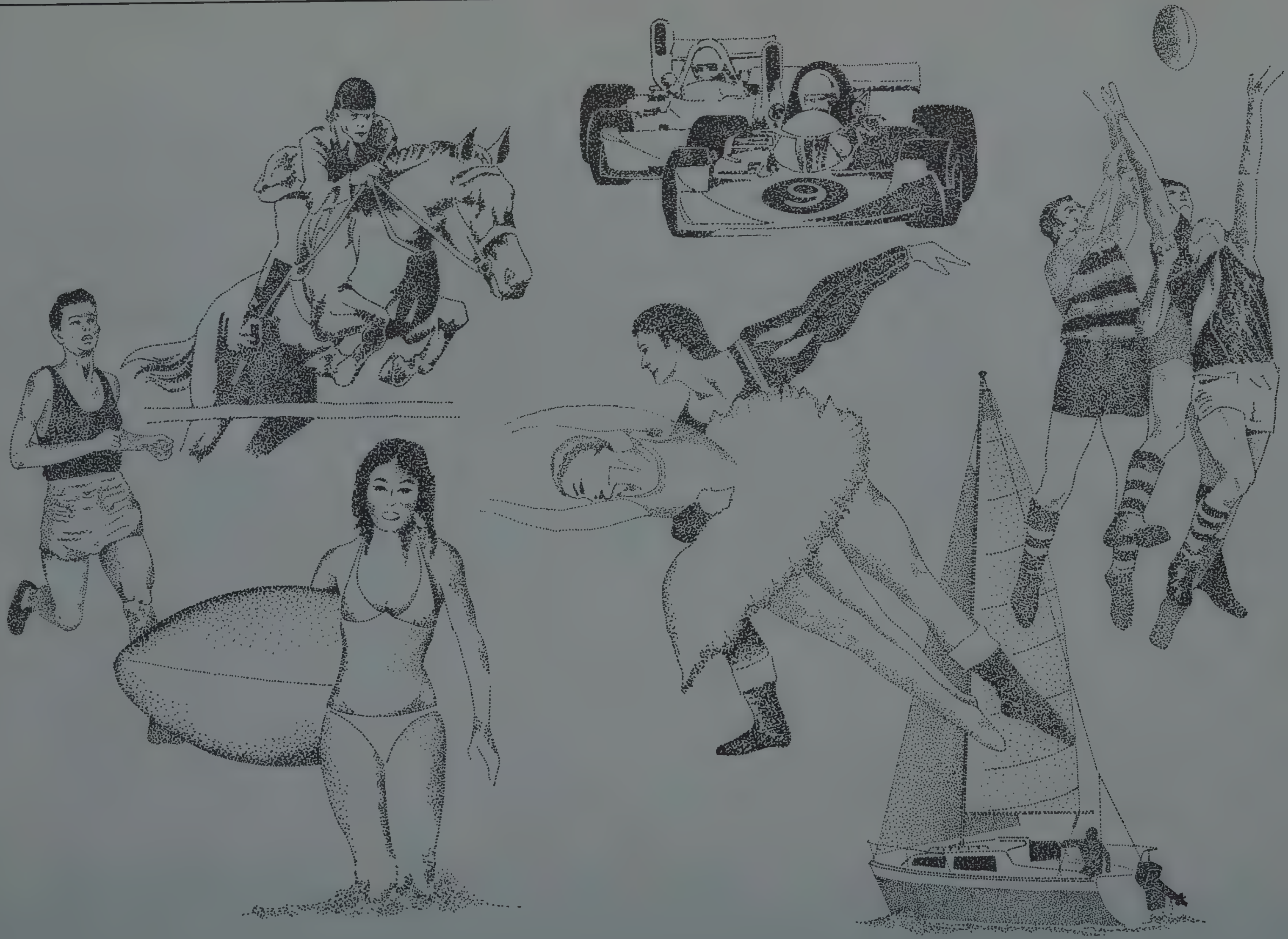
The Data Acquisition Facility comprises a 9 metre steerable antenna capable of tracking Landsat satellites from horizon to horizon, and radio receiving, tape-formatting and recording equipment. The facility, which is located within the CSIRO Land Resources Management Field Centre, is able to receive imagery of every part of Australia. Magnetic tapes of data recorded during each Landsat pass over Australia are flown daily to Canberra for processing, archiving and meeting customer requirements.

The Canberra Data Acquisition Facility is fitted with modern computer, electronic printing and photographic reproduction equipment and provides a wide range of products to Australian and overseas customers. Products include computer-compatible magnetic tapes, which customers can process through their own computers to provide imagery in formats to meet their particular requirements, and a large number of photographic products corrected and enhanced in accordance with customers' wishes. Distribution of Landsat products is arranged direct from the Data Processing Facility or through outlets in each of the States.

The Department of Science and the Environment receives advice on user needs from the Australian Liaison Committee on Remote Sensing by Satellite, a committee comprising representatives from Commonwealth and State governments, universities and colleges and private industry. The committee also provides a useful forum for consultation and co-operation among users and potential users of remote sensing data.

CHAPTER 26

CULTURE, RECREATION AND TRAVEL



CHAPTER 26

CULTURE, RECREATION AND TRAVEL

This chapter is divided into three major sections:

- The cultural activities section consists mainly of a description of cultural organisations and some statistical information concerning financial assistance for the arts.
- The recreation section comprises descriptive information provided by the Department of Home Affairs on major aspects of leisure: community recreation, fitness, sport development and information on youth affairs provided by the Department of Employment and Youth Affairs. Information on tourism, is provided by the Department of Industry and Commerce. This section also includes the results of a Census of Tourist Accommodation Establishments for the year ended 30 June 1974, and quarterly accommodation surveys conducted by the Australian Bureau of Statistics.
- The travel section consists mainly of statistics concerning overseas visitors to Australia and Australian residents departing overseas. There is also a short note about travel within Australia.

CULTURAL ACTIVITIES

Cultural organisations and financial assistance for the arts

In Australia the arts are given financial support on several levels. The main sources of subsidy are the Commonwealth and State governments, but support has been increasing recently from local governments and universities. Support from private sources is still limited, but inclusion of the arts in the benefits of private foundations and sponsoring of awards and scholarships is gradually increasing. While support is received indirectly through government educational, cultural and other public service instrumentalities, three organisations have played a significant role in serving and financing the arts: the Arts Council of Australia, the Australian Elizabethan Theatre Trust and the Australia Council.

The Arts Council of Australia

The Arts Council of Australia was founded in 1947. (It should not be confused with the Australia Council mentioned later in this chapter, which is a national government agency for assistance to the arts).

The Arts Council of Australia is an independent non-government, incorporated body. It has a unique structure of volunteer and professional networks throughout Australia. Each state and territory has an Arts Council Division which is autonomous and a professional office in each capital city (except Tasmania—Devonport). There are 250 local branches primarily, but not exclusively, in country areas.

The major functions of the Arts Council are: to tour the performing arts to school and adult audiences in country areas; to tour exhibitions; to run weekend and vacation workshops in all aspects of the arts; to stimulate and co-ordinate community arts activities.

During 1979, the Arts Council put on 7,328 performances and had a total audience of 1.3 million. Box office takings for 1979 amounted to $1.7 million.

The Arts Council of Australia and its Divisions are funded by State Government Arts authorities and the Community Arts Board of the Australia Council.

Australian Elizabethan Theatre Trust

The Australian Elizabethan Theatre Trust, which was established in the mid 1950s, was originally formed to present drama, opera, ballet and puppetry throughout Australia. Full autonomy has now been accorded to most of the performing companies established by the Trust. Only the Marionette Theatre of Australia continues to operate under Trust administration. The Trust's major functions now are to administer the Elizabethan Trust Orchestras; to act as entrepreneur in the touring of theatre features from overseas and Australian sources; and to provide general services in communication for theatre organisations.

The Trust receives annual grants from the Federal Government through the Australia Council and from State and local governments. Its revenue is supplemented by subscriptions, donations and its own activities.

The Australia Council

In January 1973, the Prime Minister announced the Government's intention to legislate to establish the Australian Council for the Arts—subsequently to be known as the Australia Council—as a statutory authority; an independent agency to advise the Commonwealth Government on policies in the arts. The Council became a statutory authority in March 1975.

Within the Council framework there are seven specialists Boards: Aboriginal Arts, Community Arts, Crafts, Literature, Music, Theatre and Visual Arts. The Boards each consist of between six and eight members, except for the Aboriginal Arts Board which has between eight and ten. The Chairman of each Board is also a member of the Council and the Boards are the main source of policy initiatives in their field. The Council also administers the Public Lending Right Scheme of payments to Australian authors and publishers.

FEDERAL GOVERNMENT FUNDS ALLOCATIONS TO THE AUSTRALIA COUNCIL

($ million)

Year	*1977–78*	*1978–79*	*1979–80*
Budget	*23.74*	*25.54*	*26.30*

ALLOCATION OF FUNDS FOR PROGRAMS, BOARDS AND ADMINISTRATION OF THE AUSTRALIA COUNCIL 1979–80

	$
The Australian Ballet Foundation	1,344,000
The Australian Opera	2,800,000
Australian Elizabethan Theatre Trust Orchestras	2,300,000
Public Lending Right Scheme	920,000
Council Programs	1,073,577
Aboriginal Arts Board	1,502,423
Community Arts Board	1,855,000
Crafts Board	1,130,000
Literature Board	1,493,000
Music Board	1,468,000
Theatre Board	5,475,000
Visual Arts Board	1,249,000
Administration	3,690,000
Total	**26,300,000**

Aboriginal Arts Board. The revival and preservation of Aboriginal culture is the responsibility of the Aboriginal Arts Board.

The Board recognises the importance of involving Aboriginals themselves, and provides a wide range of support to the Aboriginal arts, depending on the special needs of individual projects. The broad art form categories involved are—performing arts, music, visual arts, exhibitions, literature, film, video and conservation. The Board meets three times a year to consider applications for assistance and there are no specific closing dates for applications. However, applicants are requested to furnish documents in support of their applications at least two weeks in advance of meetings.

Community Arts Board. The responsibility of this Board is for projects involving more than one art form, such as arts centres, workshops and festivals; for arts programs initiated by local community bodies including local government; and for professional, multi-skilled arts groups catering for community needs. Special attention is given to the needs of ethnic communities, children and young people of outer urban, disadvantaged and remote areas. The Board collaborates with other Boards of the Council in developing and funding major pilot projects in any art forms. Detailed guidelines for applications are contained in the Board's brochure.

Crafts Board. The crafts have emerged as an important arts medium, covering both functional and non-functional objects, and with activity ranging from traditional handmade objects to those designed by industry.

Assistance is available to individuals and organisations in various areas, including workshops; education and research; study in Australia and overseas; summer schools; lectures; exhibitions; films; publications; equipment purchases and other projects developed to meet particular needs.

Some training grants provide for established craftsmen to employ trainees, a small number of fellowships is available to enable senior craftsmen to undertake programs of original work; assistance is sometimes given for special projects such as preparing for exhibitions.

Crafts Board projects have specific closing dates which are available on application to the Board. The Board meets every six to eight weeks.

Literature Board. The Literature Board supports all forms of creative writing. This is achieved by a program of direct grants to writers: (a) to allow them extensive periods away from their ordinary employment to give full attention to writing (fellowships) and (b) to underwrite expenses associated with particular projects (special purpose grants). The Board has developed a publishing subsidies scheme to help Australian book publishers produce literary works at a marketable price, and has established a subsidy scheme for literary magazines.

Fellowships consist of annual income grants ranging from $6,500 for young writers to $12,500 for some Senior Fellowships (the value is increased from time to time because of inflation). Special purpose grants valued at up to $3,000 are intended to assist writers with travel, research and other expenses in connection with particular literary work. The Literature Board assists a number of national literary organisations and events. It also has a program to subsidise writers and playwrights-in-residence at tertiary institutions. Literature Board grants have specific closing dates, which are available upon application. The Board meets five or six times a year.

Music Board. This Board is concerned with the development of music in Australia, and promotes Australian music and musicians overseas.

Assistance is given to individuals, including special purpose grants to composers; in addition, support is given to community activities such as youth orchestras, music camps, bands (through the National Band Council), concert tours, community radio, recording, publishing and research, master teacher and training of instrument makers and repairers. The Board also provides grants for organisations such as Musica Viva which seeks to increase the performance, knowledge and appreciation of chamber music, and the Australia Music Centre.

The Music Board meets every six to eight weeks, and there are specific closing dates for the various categories of assistance, details of which are available on application.

Theatre Board. The Theatre Board is concerned with developing the quality of performance and production in drama, dance, puppetry and mime. Assistance is available to professional theatre people and organisations to work and develop their skills; to encourage growth in theatre attendance; to promote community involvement in theatre, and to provide opportunities for professional ethnic theatre groups.

The Board directly supports many drama, dance and puppet companies and training institutions, which attract audiences running into millions annually. Grants are made to organisations and individuals to assist with travel, study and training programs.

The Theatre Board meets seven times a year to assess applications. Closing dates for various categories of assistance are available upon application to the Board.

Visual Arts Board. The Visual Arts Board provides a wide range of support to individuals and organisations working in the visual arts. Direct assistance to individuals enables artists to work full-time for 12 months at their art; special project grants are available for short term projects, as are some overseas travel grants.

Other programs of assistance include the commissioning and placing of works of art in public places; support for artists-in-residence; conservation of works of art; the encouragement of emerging artists through traineeships and the purchase of works of art.

The Visual Arts Board meets every six weeks and has specific categories of assistance, advice of which is available upon application.

Public Lending Right. The PLR Scheme makes annual payments to eligible Australian authors and publishers in recompense for revenue foregone through the use of their books in public lending libraries in Australia. Public Lending Right is not a Board of the Council, but is administered by a standing committee consisting of representatives of Australian authors, publishers and librarians, as well as nominees of the Literature Board, National Library, the Attorney-General's Department and the Australian Bureau of Statistics.

The National Estate

The Australian Heritage Commission

The Committee of Inquiry into the National Estate, which reported to the Federal Parliament in August 1974, recommended the establishment of a permanent commission to be the Government's policy and advisory body on National Estate matters.

The Act to establish the Australian Heritage Commission was assented to in June 1975. The Commission consists of a part-time independent Chairman and six part-time Commissioners with various skills and interests in the natural and cultural environment. Research and secretariat services for the Commission are provided by a staff of professional and clerical officers permanently located in Canberra.

The Commission's responsibilities are to advise the Minister for Home Affairs on all matters related to the National Estate; to prepare a Register of National Estate places; to develop policies and programs for education, research, professional training and public interest and understanding in fields related to the national estate; and to administer any gifts and bequests made to the Commission.

Australian National Trusts

The Australian National Trusts were founded to further the conservation of lands, places, buildings, works, and articles which are of national importance because of educational, aesthetic, historic, architectural, artistic, scientific, cultural, or other special interest.

The first National Trust, the National Trust of Australia (New South Wales), was formed in 1945. Since then, National Trusts have been formed in each of the other States, the Northern Territory and the Australian Capital Territory. The Trusts in New South Wales, Queensland, South Australia, Western Australia, Tasmania and the Northern Territory have statutory authority, and those in Victoria and the Australian Capital Territory are incorporated under the Companies Act of Victoria and the Companies Ordinance of the Australian Capital Territory respectively.

Membership of the National Trusts is open to all individuals and organisations. Total membership throughout Australia is approximately 62,000. The Trusts are financed by members' subscriptions and donations from individuals and commercial and industrial organisations; the proceeds of charges for entry to Trust properties; and the fund-raising activities of members, including inspections of historic buildings and towns, archaeological sites and places of natural beauty. Each State National Trust receives financial support from the Commonwealth Government in the form of an administrative grant-in-aid of $30,000 each per annum, and each receives support from its State Government.

The Australian Council of National Trusts was incorporated in 1965 to co-ordinate the activities of the State National Trusts and represent them at federal and international level. The Commonwealth Government supports the Council through an annual grant of $60,000 for administrative purposes and also provides support to the Council and State Trusts through taxation concessions.

Since 1973, the National Trusts have received substantial grants from the Commonwealth Government under the National Estates program for capital projects, mainly for the restoration of buildings and conservation studies. They have also supervised projects of other organisations financed under the program.

The number of properties owned or controlled by the Trusts exceeds 200. These include houses such a Clarendon (Tas.), nature reserves, a telegraph station, a stock exchange (Charters Towers, Qld), a powder magazine, a market (Castlemaine, Vic.), an inn (Overland Corner, S.A.), a police station, a court house, a gaol, an historic hamlet (Greenough, W.A.), two paddle steamers and an iron barque, a joss house and a garden (Leura, N.S.W.). The Trusts have established registers of 16,000 places including buildings, urban areas and landscapes which they consider should be conserved as part of the national estate.

Historic Memorials Committee

The Historic Memorials Committee was established in 1911 for the purpose of securing portraits of distinguished Australians who had taken an active part in Federation. Later the Committee decided to obtain portraits or other representations of all Governors-General, Prime Ministers, Presidents of the Senate, Speakers of the House of Representatives, Chief Justices of the High Court of Australia and other distinguished Australians. In addition, the Committee has commissioned paintings recording special events connected with the Commonwealth Parliament.

The Committee comprises the Prime Minister (Chairman), the President of the Senate, the Speaker of the House of Representatives, the Vice President of the Executive Council, the Leader of the Opposition in the House of Representatives, and the Leader of the Opposition in the Senate. The Committee is advised on commissioning of portraits by the Visual Arts Board of the Australia Council. The Secretary to the Committee is provided by the Department of Home Affairs, Canberra.

The performing arts

Festivals

The number of festivals devoted solely or partly to the arts now total about 400 a year. The two biggest are Adelaide's biennial and Perth's annual festivals, both of which last several weeks and present overseas artists as well as leading Australian companies. Victoria's large popular festival, 'Moomba', has a substantial arts program.

Many country centres now have arts festivals which attract performers and artists from a wide area. Purely amateur and competitive performances are being infused with increased professionalism. Seminars, arts workshops and community participation programs are increasingly popular.

Theatre

Commercial theatre organisations and entrepreneurs, stage musicals and plays and bring to Australia overseas companies such as the Royal Shakespeare Company and the Moscow Circus.

Opera

The Australian Opera was created in 1956 and, until late 1969 when it formed its own Board of Directors, was known as the Elizabethan Trust Opera Company. In September 1973, the Australian Opera opened its first season in the new Sydney Opera House. It employs a chorus of 52 singers and 43 principals on a permanent basis.

The 1979 budget for the Australian Opera was $8,949,000. This does not include the cost of the orchestras. Of this total, approximately $4,092,500 comes from State and Federal subsidies or from donations from individuals or industry. The Federal grant was $2,520,000. The remainder was met from box office receipts and other earned income.

Ballet

The Australian Ballet Foundation was formed in 1961 by the Australian Elizabethan Theatre Trust and J. C. Williamson Theatres Ltd to establish a national ballet company, which gave its first performance on 2 November 1962. On 16 October 1970, the Australian Ballet Foundation was registered as a company limited by guarantee and a licence is held under section 24 of the *Victorian Companies Act* 1961 (as amended) to dispense with the use of the word "Limited".

The Australian Ballet receives subsidies from the Federal Government (through the Australia Council), the six State Governments and major municipal bodies. It also receives support from private corporations and individuals. The Australian Ballet has its headquarters and studios in Melbourne.

The 1978 operating and other expenses of the Australian Ballet was $4,510,000; of this amount $1,290,000 was met by Commonwealth Government subsidy, and $241,500 by grants from State governments. This figure does not include the services of the Elizabethan Trust Orchestras which perform with the Ballet.

Music

The Music Board of the Australia Council is responsible for administering Commonwealth Government assistance to music and opera. Assistance is provided for a wide range of music activities, one of the most important being the development of Australian music and interest in the work of Australian composers.

Australia has eight fully professional orchestras. Six symphony orchestras have been established—one in each State capital. They are managed by the Australian Broadcasting Commission (ABC). Two Elizabethan Theatre Trust orchestras are predominantly engaged in work with the Australian Opera and Ballet. The ABC's Sydney and Melbourne Symphony Orchestras have toured the USA, Asia, Europe and Canada with acclaim.

The ABC also controls a national training orchestra and organises about 750 concerts—both symphony and recital—each year. For further details of the Australian Broadcasting Commission *see* Year Book No. 61, pages 416–18 and 1013.

Musica Viva Australia, a non-profit society receiving financial support from the Music Board of the Australia Council and several State Governments, seeks to increase the performance, knowledge and appreciation of chamber music through subscription concerts, festivals, workshops and education activities. Musica Viva presents concerts by distinguished overseas ensembles and by groups of leading Australian musicians and organises overseas commercial tours for Australia's leading ensembles. The Society managed approximately 700 concerts within Australia and overseas during 1979.

Film

Australian Film Commission

The Australian Film Commission, established by the *Australian Film Commission Act* 1975, assists Australian film and television producers with funds and services for the production, distribution and exhibition of Australian films and television programs within Australia and abroad.

The Commission distributes theatrical, non-theatrical film and television productions in Australia and overseas through its representatives at Australian official posts. Non-theatrical distribution in Australia is arranged with State film distribution agencies and through the National Library of Australia.

Between sixty and seventy films are produced annually by the Film Australia Branch with translations into as many as twenty-six languages. These films deal with matters of national interest to Australia and are designed to illustrate or interpret aspects of Australia or of the life and activities of the Australian people.

Film and Television School

The Film and Television School was established as an independent statutory authority by Act of Parliament in 1973 and is governed by a fifteen member Council. It is responsible for advanced film, television, radio and audio-visual communications training throughout Australia.

The School's principal activities are:

Full-time program—a three year full-time course providing professional training for creative positions in the film and television industry and for work with film and television in education;

Open programs—providing, on an Australia-wide basis, training courses of shorter duration including workshops, seminars, public lectures and refresher courses for people involved in various film and television crafts, to teachers and educational institutions, for people requiring education and practical training in sound broadcasting and to those in other areas who use or intend to use audio-visual media in their professional work as tools for education, information, documentation or research;

National Graduate Diploma in Media—a one year postgraduate course which is intended to equip teachers with the knowledge and skills needed to design and implement media curricula in secondary schools and to increase expertise in the use of audio-visual teaching resources. Currently, the Scheme operates in New South Wales, Victoria and Western Australia;

Other Activities—conducting programs to assess employment opportunities for graduates, industry training needs, student research activities and maintaining an extensive collection of film, television, radio and other audio-visual library materials.

Film Censorship

The Federal Government's film censorship powers under the Customs Act extended only to imported films and imported advertising matter. Under that Act the Customs (Cinematograph Films) Regulations provide for the appointment of a nine-member Film Censorship Board whose function is to register films and approve advertising matter unless they fall into certain defined categories. Importers may appeal against decisions of the Film Censorship Board to the Films Board of Review.

The Attorney-General's Department is responsible for film censorship and all States have agreed that the Federal Boards should be the censorship authorities for the purpose of the State Acts.

Thirty-five mm feature films: In 1978, 749 feature films (including 18 Australian films) totalling 1,264 hours running time were examined. Forty-two feature films were rejected and 29 were cut. There were 10 appeals of which 2 were upheld and 8 dismissed. Of the 749 features, 90 were classified for General Exhibition ('G'), 124 Not Recommended for Children ('NRC'), 198 For Mature Audiences ('M') and 187 For Restricted Exhibition ('R'). One hundred and eight were registered subject to special conditions.

The principal suppliers were United States of America (234 films), Hong Kong (110 films), Italy (91 films), France (43 films) and United Kingdom (40 films).

While the 'M', 'N.R.C.' and 'G' classifications are advisory, persons between the ages of 2 and 18 (6 and 18 in Victoria) are excluded by law from seeing 'R' films.

Sixteen mm feature films: Excluding those imported for television use, 140 feature films (including 12 Australian films) totalling 231 hours were examined.

Television films: In 1978, 8,225 films for use on television were examined. These consisted of 4,071 sixteen mm films (totalling 3,164 hours) and 4,154 videotapes (totalling 2,731 hours). The principal suppliers were the United States (5,773 films) and United Kingdom (2,250 films). Of the total imports, 186 films were cut and 48 were classified as unsuitable for television.

Art

The Visual Arts Board

The Visual Arts Board of the Australia Council is responsible for the promotion of excellence in the visual and plastic arts throughout Australia.

In co-operation with the Department of Foreign Affairs, the Board arranges exhibitions of Australian art to tour overseas, and also arranges Australian participation in international art competitions. Exhibitions of important international art tour Australia under the auspices of the Visual Arts Board, sometimes in association with the Australian Gallery Directors' Council.

The Australian National Gallery

The foundation stone for the Australian National Gallery, on the shores of Lake Burley Griffin in Canberra, was laid by the Prime Minister on 7 November 1973. The Gallery building is due for completion in 1981. It is 23,000 square metres in area. This includes fourteen exhibition galleries taking up 30 per cent of the floor space. The remainder will accommodate theatres and a theatrette, an education section, a library, a conservation laboratory, administrative and workshop areas and stores.

The Australian National Gallery will contain the National Collection of Australian Art and representative collections of the arts of other cultures and times.

The National Collection of Australian Art will be the focus around which other collections will be assembled.

These collections will include:

- Arts of Asia and South East Asia
- Primitive Art
- European Art before 1850
- Art of the Modern Period—from 1850
- Prints, Drawings and Illustrated Books from 1800
- Sculpture
- Decorative Arts
- Photography
- Film

The National Gallery Act 1975 was proclaimed on 3 June 1976 establishing the Australian National Gallery as a Statutory Authority.

Other galleries

Other important art collections are housed in the Australian War Memorial and in public galleries in all State capitals and many of the larger country centres. As well as these galleries there are many municipal and private trust institutions, and university and private collections.

Museums

In each State there is at least one major State-run museum. There are also many smaller museums owned by municipal councils, district and historical societies, private trusts and private individuals. The two major national museums in the Australian Capital Territory are the Australian War Memorial and the Australian Institute of Anatomy.

Literature

National Literature Board of Review

The National Literature Board of Review was established in 1968, following Commonwealth-State agreement, to achieve uniformity in the administration of laws relating to blasphemous, indecent or obscene publications of *prima facie* literary, artistic or scientific merit. In terms of the agreement, the Board is established under the Customs (National Literature Board of Review) Regulations. Appropriate Ministers of any State may, under the Agreement, refer locally published or distributed works to the Board for advice.

Book publishing

Statistics of book publishing are compiled and published by the National Library. The following table shows the number of books and pamphlets (including leaflets) published in Australia in 1973, 1974, 1975 and 1976, and received by the National Library to December 1976, classified by State or Territory of publication and by class of publisher.

AUSTRALIAN BOOKS AND PAMPHLETS PUBLISHED BY YEAR OF PUBLICATION

(Source: *Australian National Bibliography, National Library of Australia*)

	Number of titles (a)			
	1973	1974	1975	1976
State or Territory—				
New South Wales	1,679	1,701	1,710	763
Victoria	1,136	1,328	1,366	679
Queensland	322	331	341	153
South Australia	468	490	595	227
Western Australia	338	313	313	96
Tasmania	109	84	91	27
Northern Territory	52	70	74	9
Australian Capital Territory	980	1,081	1,188	416
Papua New Guinea	238	139	104	2
Total	*5,322*	*5,537*	*5,782*	*2,372*
Publisher—				
Commercial	1,798	1,966	2,437	1,340
Commonwealth Government	943	1,014	876	357
State Government	779	909	891	249
Local Government	45	21	24	2
Society, institution, company, private	1,757	1,627	1,554	424
Total	*5,322*	*5,537*	*5,782*	*2,372*

(*a*) Received by the National Library to December 1976.

Libraries

Australian Government libraries

National Library of Australia, Canberra. The National Library maintains and develops a national collection of library material which is representative of all the major countries of the world. It is also responsible for assembling a comprehensive collection of library material relating to Australia and the Australian people. In fulfilling the latter statutory function, the Library seeks to preserve books, periodicals, newspapers, government publications, pictures, prints, manuscripts, maps, moving picture films, music scores, sound recordings and other material whether in writing or some other form. Under the deposit of the *Copyright Act* 1968, a copy of all library material published in Australia is delivered to the National Library. The Library has also been enriched by the acquisition of such notable collections as the Petherick collection of 16,500 items in 1911, the Cook manuscripts in 1923, the Compston collection on Public Health in Australia in 1936, the Mathews ornithological collection in 1940, the Rex Nan Kivell collection of 16,000 items of Australian and Pacific interest including original paintings, prints, manuscripts, and printed material in 1959, and the Ferguson collection of Australiana in 1970. The Library maintains a permanent exhibition of paintings, prints and other historical material selected from its various collections.

In association with the State Library of New South Wales, the Library is engaged on a microfilming project to copy original records relating to Australia which are held in Great Britain and other overseas countries. The computer-produced *Australian National Bibliography*, which appears weekly, monthly, four monthly and annually, lists books published in Australia and books dealing wholly or substantially with Australian subjects or written by Australian authors. The publications of the Australian governments included in *Australian National Bibliography* are also listed quarterly and annually in *Australian Government Publications.* A select list of authoritative Australian books of reference and research value is published annually in *Australian Books.* A similar list of serials is published in successive editions under the title *Current Australian Serials.* The Library's *Australian Public Affairs Information Service*, published monthly with annual cumulations, is the major periodical index to Australia's political, economic, social and cultural life. *Australian Maps* has been issued quarterly from 1968 with a 10 year cumulation for the period 1961–1973 and annual cumulations from 1974.

The provision of central cataloguing services is an important function of the National Library aimed at achieving cataloguing economies on a national scale. Established in 1967, the Australian Card Service makes available catalogue cards for titles listed in *Australian National Bibliography.* Since 1970, cards for overseas books have been available from the Overseas Card Service. Australian libraries with access to computer facilities can order machine-readable records for Australian and overseas books through the Australian MARC Record Service. The Library also operates the Australian Cataloguing in Publication Program whereby, as a result of the co-operation of many trade and academic publishers, books published in Australia are catalogued in advance of publication and the cataloguing data are printed in the books. These data also appear as preliminary entries in *Australian National Bibliography*, the Australian MARC Record Service and the Australian Card Service.

Co-operative bibliographical activity includes recording, in a series of union catalogues, the holdings of the major Australian libraries. The national union catalogue of monographs was commenced in 1960 and since then all the larger libraries and an increasing number of smaller libraries have reported their monograph accessions to the National Library. This catalogue is now published on microfilm so that duplicate copies can be held in major research and academic libraries in Australia, Papua New Guinea and New Zealand. Access is thus decentralised and speeded. The second major published union catalogue is the continually updated *Serials in Australian Libraries, Social Sciences and Humanities*, which compliments another catalogue, *Scientific Serials in Australian Libraries*, published by the Commonwealth Scientific and Industrial Research Organization. Both of these are being automated and eventually will be available in microfilm. Other union catalogues maintained and/or published by the National Library cover manuscripts, newspapers, music and oriental language material. All are described in the *Guide to the National Union Catalogue of Australia* which the Library periodically re-issues.

Since 1969, the Library has operated a number of automated data bases which provide computer-produced bibliographies of recent and current material to users either in printed form or on-line. It also provides access through international links to data bases operated elsewhere. A new on-line network, AUSINET, has been developed to give, for the first time in Australia, access from the same terminal to a range of data bases in science and technology, the social sciences and the humanities.

The National Library acts as a central library of documentary and educational films. Its lending collection of approximately 20,000 films contains both Australian and overseas material on a wide range of topics, while its historical collection constitutes the major holding of Australian film production since its beginning in 1896. Additions to the film lending collection are recorded in *Film Acquisitions* published quarterly with annual cumulations.

The National Library's collections of Australian and overseas material contain over 1,725,258 volumes; 28,640 paintings, drawings and prints; 216,607 photographs; 138,795 reels of microfilm; 1,117,672 microfiche pieces; 294,322 microprint/microcard pieces; 2,500 metres of manuscripts; 19,153,000 metres moving picture film; 131,000 stills; 844,030 maps and aerial photographs; 32,558 music scores; 238,000 sound recordings and tapes; and 5,600 oral history tapes.

Patent Office Library. The library of the Australian Patent, Trademarks and Designs Office in Canberra contains approximately 10,000 books and a wide variety of periodicals and other literature relating to science, technology, industrial property (patents, trademarks and designs), law and practice. Patent specifications of inventions are received from the principal countries of the world. Present holdings are over 15,000,000. An international index to these specifications is available on microfiche. The Australian Patent Information Service works in co-operation with the Library. Its major function is to make Australian industry aware of the wealth of technological information held in the world collection of patent literature and assist them in accessing this information. Australian specifications and related material are also available at Sub-Offices in Brisbane, Sydney, Melbourne, Adelaide and Perth and the State Library in Hobart.

Commonwealth Scientific and Industrial Research Organization (CSIRO). The Central Library was brought into the newly formed CSIRO Central Information, Library and Editorial Section at the end of 1973. Its holdings cover the pure and applied sciences. In addition to the Central Library located in East Melbourne, each of the Divisions has specialised collections. The Library maintains a union catalogue of the holdings of all CSIRO libraries, and maintains the constantly-updated *Scientific Serials in Australian Libraries.* The Central Information Service publishes the monthly *CSIRO Abstracts* and *Australian Science Index*, and directories such as *Australian Scientific Societies and Professional Associations* and *Scientific and Technical Research Centres in Australia.* It also provides a question-and-answer service; operates the CSIRO Selective Dissemination of Information (SDI) System; and provides specialist bibliographies.

The Australian War Memorial Library, Canberra. In the War Memorial library are preserved the documentary and pictorial records of Australia's participation in armed conflicts. Printed material includes over 80,000 volumes (books and bound periodicals); thousands of unbound periodicals; leaflets; souvenir and microfilm items; a large collection of military maps; newscuttings and newspapers; sound recordings; war posters; postage stamps; and currency. Official records and personal papers occupy almost 2,000 metres of shelving. Official war photographs covering the 1914–18, 1939–45, Korean and Vietnam wars number over 670,000, and there are about 1½ million metres of cinefilm. Facilities exist for reference and research.

The Commonwealth Parliamentary Library. The Library is 'an intellectual resource centre' providing information and research services to the Commonwealth Parliament through the Legislative Research Service and the Library and Legislative Information Service. The Research Service comprises groups staffed by subject specialists who prepare analyses and interpretations of specific issues with which the Parliament is or may be concerned. The Library and Legislative Information Service answers questions and provides information from printed sources. The library collection is concentrated on topical material, supported by a wide collection of standard references; it totals 40,000 titles, including 8,500 serial titles. The library publishes the Commonwealth Parliamentary Handbook, which is a standard reference work, occasional annotated reading lists, background papers, digests of bills and, in alternate fortnights, Index to Current Information and select Lists of Acquisitions.

Other Commonwealth Government libraries. Most Commonwealth Government authorities have specialised collections in their own fields and, in addition, draw largely on the National Library.

Library services in the Territories. The Northern Territory Library Service maintains five centres in the Territory: at Darwin, Nightcliff, Alice Springs, Tennant Creek and Katherine. At 30 June 1974, stocks totalled 67,124 volumes.

The National Library, through its Extension Services Section, conducts the Canberra Public Library Service to residents of the Australian Capital Territory. At 30 June 1977, 489,350 volumes were held.

State libraries

Most municipal councils in the States have libraries funded largely by State governments. A detailed description of State libraries is given in Year Book No. 59, pages 685–690 and in each State Year Book.

Children's libraries and school libraries

Children's libraries exist in all States, usually as branches or extensions of State or municipal libraries. Further details of children's libraries and school libraries are given in Year Book No. 59, pages 689 and 690.

University and college libraries

Since 1957, when the Commonwealth Government inaugurated a comprehensive program of university expansion, there has been notable development of university libraries, and similar development is now taking place in Colleges of Advanced Education. Some current information on university libraries is given in the ABS annual publication *University Statistics—Part 2: Staff and Libraries* (4209.0).

Archives

Australian Archives

The War Archives Committee, established in 1943 by the Prime Minister to arrange for preservation of war archives, in 1946 became the Commonwealth Archives Committee with responsibility for Commonwealth archives generally. In 1944, the Australian War Memorial and the Commonwealth National Library were designated as archival authorities for the Service departments and for other departments respectively. In 1952, the National Library became the sole archival authority for the Commonwealth, and in 1961 the Archives Division of the National Library was reconstituted as the Commonwealth Archives Office, a part of the then Prime Minister's Department. In March 1974, the Commonwealth Archives Office was re-named the Australian Archives.

The Australian Archives functions as a central agency for the administration of Commonwealth Government records which are no longer required in the day-to-day business of government. Its headquarters are in Canberra, and it has regional branches in all State capitals and in Darwin and Townsville. In relation to the Government's records management programme, its responsibilities are:

(i) to ensure the preservation of Commonwealth records of permanent value;
(ii) to promote efficient and economic management of current Commonwealth records, including authorisation of destruction;
(iii) to facilitate use of Commonwealth records by members of the public; and

(iv) to administer official policy on access to Commonwealth records, most of which are available for consultation by the public when they are thirty years old.

At 30 June 1978, its holdings throughout Australia totalled 297,109 shelf metres of records, including 111,230 metres of permanent value material. During 1978–79, 810 official reference inquiries were received and 257,532 items were issued to Government departments. Some 1,373 public reference inquiries were also received, and 35,888 items were issued in the Public Search Rooms for consultation.

The Australian Archives maintains liaison with similar organisations overseas, and is a national member of the International Council on Archives, established under the auspices of United Nations Educational, Scientific and Cultural Organisation (UNESCO).

State government archives

State government archives, dating from the beginning of European settlement in 1788, are held, in the case of New South Wales, Tasmania and Victoria, by archives offices established in 1961, 1965 and 1973 respectively; in other States they are held by the archives sections of State libraries.

Australian National University Archives of Business and Labour

The Australian National University Archives was established in 1954 when the records of the Australian Agricultural Company were acquired. In 1959 its collecting activities were expanded to include records of employer and employee organisations. The aim is to gather primary source material to support advanced research in economic history, history and political science. Records of nearly 200 businesses (171 deposits) and over 100 employer and employee organisations (272 deposits) are held.

The Archives include deposits which have been microfilmed and pamphlet collections of interest to research workers in political history. In addition, an archival program for the University's own records is being developed.

Business Archives Council of Australia

The Business Archives Council of Australia works for the preservation of business records and promotes the writing of business history. The Council itself does not collect business records; the main collecting centres are the Archives of the Australian National University, the University of New England and University of Melbourne. The Australian National University and the University of Melbourne have strong collections covering a wide range of business activity. The former is notable for its holdings of records of pastoral companies; the latter for its holdings of mining companies. In addition, both hold large collections of records of trade unions. The University of New England concentrates on rural industries. The Archives of Wollongong University concentrates on collecting business and trade union records of the Wollongong region.

Other Australian archives

The Mitchell Library has been acquiring manuscript material since the early years of this century. More recently, the National Library, State libraries, some archives offices, a few public libraries and historical societies, the Australian Academy of Science, and the Australian War Memorial (which is also responsible for the custody and preservation of operational records of the armed services) have assembled important collections of private papers. Ecclesiastical archives have been set up by some of the churches. Some firms have established their own archives services and the Business Archives Council plays a co-ordinating role. State and local historical societies help to preserve regional, local and private historical material.

Botanical and zoological gardens

In addition to the State botanical and zoological gardens there are numerous privately-owned zoos and sanctuaries, many of them at tourist resorts, which maintain collections of Australian flora and fauna. There are also various national parks, forests, reserves, etc. dedicated for public use which are preserved largely in their natural condition. Detailed information is given in each State year book.

The following is a summary of botanical gardens and reserves in the Northern Territory, Australian Capital Territory and the Commonwealth Territory of Jervis Bay.

Northern Territory: The Darwin Botanical Gardens occupy 30 hectares and feature 12 hectares of tropical plants of both native and overseas origin. Two hectares are used for an amphitheatre and contain a number of native and exotic plants. The Gardens are controlled by the Corporation of the City of Darwin. The Gardens were extensively damaged by Cyclone Tracy in December 1974 and, along with an extensive planting of palm and rain forest species, every effort has been made to restore and improve the Gardens.

Australian Capital Territory: The National Botanic Gardens (formerly Canberra Botanic Gardens) occupies a 40 hectare site on the lower slopes of Black Mountain. It was officially opened in 1970 and comprises the largest living collection of Australian native plants with over 4,000 species in cultivation. The associated herbarium houses over 70,000 specimens. An annexe of approximately 78 hectares was established at Jervis Bay in 1951 to cultivate frost tender plants under more favourable conditions than those prevailing in Canberra. Public education and horticultural research into native plants are important aspects of the Gardens activities.

The Tidbinbilla Nature Reserve (5,515 ha) is located 43 km south-west of Canberra. The Reserve includes much of the Tidbinbilla Valley which ranges from 762 metres above sea level to 1,325 metres at Tidbinbilla Peak, the highest peak of the Tidbinbilla Range which forms the western boundary of the Reserve. As a consequence of the valley topography many habitats are represented and plant and animal wildlife is diverse. A system of wildlife enclosures and waterfowl ponds, 56 kilometres of nature trails and a comprehensive information service is provided for approximately 180,000 visitors per annum.

The Gudgenby Nature Reserve (51,000 ha) occupies about 20% of the A.C.T. and contains an extensive tract of the wild highlands of south-eastern Australia. It covers the catchments of the Naas and Gudgenby Rivers and shares a common boundary with the Cotter River catchment (47,000 ha) in the A.C.T., and the magnificent Kosciusko National Park (520,000) in neighbouring N.S.W.

The topography and landscapes of the Reserve and consequently plant and animal communities are extremely varied. Habitat ranges from grassland of the valley floors through woodland and mountain forest to sphagnum bogs, heath swamps and alpine woodland. Several high peaks rise to between 1,700 metres and 1,800 metres above sea level. Other features of importance include a series of Aboriginal rock paintings, the only ones known in the A.C.T.

The Jervis Bay Nature Reserve occupies two thirds (4,470 ha) of the Commonwealth Territory of Jervis Bay which lies on the south-east coast of Australia at latitude 35°09' south and longitude 150°42' east. The Reserve consists of a sandstone peninsula, a small island and part of the waters of Jervis Bay. The Reserve is characterised by a substantially natural landscape and outstanding coastal scenery. High cliffs, ocean and bay beaches, sand dunes, woodland, forest and heath together with unspoiled marine environments are among the attributes of the Reserve which attract in the order of 400,000 visitors annually.

The Black Mountain Reserve (521 ha) adjacent to Lake Burley Griffin, is a significant focal point in the Canberra landscape and an essential component of the 'mountain and lake' concept of the Canberra scene. Black Mountain Reserve is unique in its setting within the inner boundary of a National Capital. In addition to broad scale scenic attributes, the Reserve has a varied complex of flora and fauna and is used extensively for recreation and nature study.

Management aims for all nature reserves in the A.C.T. and Territory of Jervis Bay are to:

- maintain natural ecosystems and landscapes and protect sites of prehistoric and historic significance;
- provide opportunities for recreational, scientific and educational use of these resources consistent with their protection.

RECREATION

The Department of Home Affairs has since December 1978 assumed responsibility for recreation, fitness and sports development.

All State governments have also established agencies with special responsibilities for recreation and sport. Increasing numbers of local government authorities are now employing recreation workers who are responsible for planning the use of recreation facilities, and for devising recreation programs.

Community recreation

The "Life. Be in it" program will complete its third year as a national campaign in November, 1980. Having grown from a successful initiative launched with Commonwealth support in Victoria in 1975, the program has raised wide-spread awareness of the need for more active life-styles and has attracted both community and commercial support. A national survey showed that 88 per cent of Australians now recognise the television cartoon characters "Norm" and "the family". The campaign is aimed at promoting health and fitness for families and individuals by encouraging a wide variety of enjoyable recreational activities. The Commonwealth Government co-ordinates national aspects of the program, and works closely with State and Territory Departments responsible for recreation. Commonwealth Government support for the program has been guaranteed to the end of the 1982–83 financial year.

A study to identify the future needs of voluntary recreation workers has been completed in co-operation with State Government departments. The first stage of the Tasmanian Recreation Land Use Study, funded by the Commonwealth, has been completed. Further work on specific issues and the implementation of recommendations is being funded by the Tasmanian Government.

Sports development

The Minister for Home Affairs is advised on guidelines for a sports development program, the allocation of funds and other aspects of sports development by a Sports Advisory Council. In 1979 the membership of the Sports Advisory Council was increased from six to nine members so that the Council might represent a broader range of sporting views.

During 1979–80, national sporting bodies are to receive $2.0 million in Commonwealth Government assistance through the sports development program. The broad areas of action are:

- administration of national sporting associations
- national coaching schemes
- international competition
- research and information dissemination
- developmental projects.

An initiative in the coaching area has been the National Coaching Accreditation Scheme which was launched in July 1979. The Scheme offers an ongoing coaching education program for coaches through the provision of coaching courses at general, sport specific and practical levels.

During 1979–80 the Commonwealth government is providing $0.7 million to the Australian Olympic Federation for preparation and travel of the Australian team to the 1980 Winter and Summer Olympic Games at Lake Placid, USA and Moscow, USSR, respectively. A grant of $10.0 million is being made to the Queensland Government for construction of sporting facilities and athletes'/officials' accommodation in connection with the 1982 Commonwealth Games in Brisbane. Provision of this grant is on the basis of $2.5 million per year from 1978–79 to 1981–82 inclusive.

Since 1951, the Commonwealth Government has provided grants for both the Royal Life Saving Society and the Surf Life Saving Association of Australia. In 1979–80 the Government has provided $60,000 to the Royal Life Saving Society for administrative purposes and $280,000 to the Surf Life Saving Association. Of the latter amount, $140,000 is provided on a dollar for dollar subsidy basis for the purchase of rescue equipment for clubs, branches and State centres; $100,000 for administrative purposes; $20,000 for special projects; and $10,000 to assist needy clubs to purchase rescue equipment.

Youth affairs

The Office of Youth Affairs is a Branch of the Department of Employment and Youth Affairs and advises the Minister on youth policy.

The primary functions of the Office are: to seek greater co-ordination and consultation between Commonwealth Departments on programs and proposals affecting youth; to seek greater co-ordination and consultation with State Governments, local government and non-government agencies in relation to Commonwealth programs affecting youth. Other functions of the Office are: to further develop the research and information capacity to increase the effectiveness of similar activities in other Commonwealth Departments; to advise on youth needs and aspirations and assist those designing specific and general programs and services for youth; to further develop channels for better communication between youth and government.

The Office pursues its functions through information services, liaison and consultation, and research and co-ordination.

It has issued a number of publications and has several in preparation. It has also issued two series of videotapes on unemployment and school/work transition, and a third series on accommodation is in preparation. It publishes a regular Newsletter.

The Office works closely with both the voluntary and government sectors with the aim of enabling young people to communicate more easily with the government. It acts as secretariat to the National Youth Advisory Group and to the Commonwealth's Task Group on Youth Affairs. It convenes regular meetings with State government youth agencies and peak organisations of national voluntary youth organisations.

One major task undertaken by the Office in 1979 was the organisation of the National Youth Conference held in October in Canberra. This Conference was attended by youth and community representatives and discussed issues such as employment, education and training, and communication with young people. The Minister is now considering the resolutions of the Conference.

Other issues being examined by the Office include:

- aspects of school/work transition
- provision of crisis accommodation for young people
- youth related research needs and co-ordination
- international aspects of youth programs.

A number of youth activities and programs in Australia are provided by voluntary youth organisations, many of which are organised nationally. The Commonwealth Government provides financial assistance to some of these national organisations to enable them to improve service to young people and the community in general. In 1979-80, $300,000 was provided for some 15 organisations.

Tourism

The Department of Industry and Commerce is involved in a range of policy, administrative and consultative activities designed to encourage the efficient development of tourism in Australia in co-operation with the industry and with Commonwealth and State government departments. Major functions of the department include: formulation of policy proposals, transmission of advice to the Minister on industry problems, administration of the *Australian Tourist Commission Act*, conduct of research into the tourist and travel industries, provision of secretarial support to the Tourist Ministers Council, the Australian Standing Committee on Tourism and the Travel and Tourist Industry Advisory Council and liaison with international tourism organisations.

On 1 December 1976, the Government established a Parliamentary Select Committee on Tourism. The Committee's terms of reference were to examine the nature of the industry, report on problems and recommend solutions. The final report of the Committee was tabled on 26 October 1978. Following examination, a report on action taken by the Government was made to the Parliament on 5 April 1979.

Australian Tourist Commission

The Australian Tourist Commission was established in 1967 as a statutory body to encourage people from other countries to visit and travel within Australia. It has nine commissioners including representatives of the Commonwealth and State governments and the tourist industry. In 1978-79 its budget was $8.2 million. This includes $200,000 as part of a two year domestic campaign costing $500,000 in total.

The Commission engages in a wide variety of marketing activities including consumer and trade advertising, industry seminars and familiarisation visits for travel agents, journalists and photographers. The Commission has its head office in Melbourne and branch offices in London, Frankfurt, New York, Los Angeles, Tokyo, Auckland and Sydney.

Tourist Accommodation

Census of Tourist Accommodation Establishments. A census of Tourist Accommodation Establishments was conducted by the ABS in respect of the year ended 30 June 1974 to identify and measure the amount, type and location of tourist accommodation available throughout Australia.

For detailed statistics from the Census *see Census of Tourist Accommodation Establishments, Australia and Australian Capital Territory, Year Ended 30 June 1974* (8637.0) and *Census of Tourist Accommodation Establishments*, 1973-74 published by the Deputy Commonwealth Statistician in each State.

Surveys of Tourist Accommodation Establishments. Quarterly accommodation surveys were commenced in the September Quarter 1975 and data published from these surveys include room occupancy, bed occupancy and takings from accommodation.

The main purpose of the surveys of tourist accommodation establishments is to measure the utilisation of available tourist accommodation. For detailed statistics from the survey *see Tourist Accommodation* (8635.0).

TOURIST ACCOMMODATION (*a*)

		March quarter 1978	*June quarter 1978*	*September quarter 1978*	*December quarter 1978*	*March quarter 1979*	*June quarter 1979*
LICENSED HOTELS WITH FACILITIES(*b*)							
Establishments	Number	917	916	936	933	928	929
Guest rooms	”	24,671	24,751	25,146	25,146	25,144	25,337
Bed spaces	”	55,987	55,954	57,330	57,248	57,242	58,104
Room occupancy rates	%	54.7	53.1	55.6	52.6	55.3	53.1
Bed occupancy rates	%	37.2	34.6	37.2	34.9	37.1	34.9
Gross takings from accommodation	$’000	29,912	29,905	33,449	31,974	34,374	34,398
MOTELS, ETC.(*b*)							
Establishments	Number	2,056	2,053	2,123	2,137	2,139	2,149
Guest rooms	”	51,317	51,409	52,668	53,413	53,343	53,670
Bed spaces	”	146,478	146,418	150,335	152,521	152,894	154,172
Room occupancy rates	%	61.6	58.5	61.6	57.0	61.1	58.7
Bed occupancy rates	%	40.8	36.3	39.0	35.3	39.7	36.8
Gross takings from accommodation	$’000	64,347	61,275	68,613	65,096	72,219	71,215
TOTAL							
Establishments	Number	2,973	2,969	3,059	3,070	3,067	3,078
Guest rooms	”	75,988	76,160	77,814	78,559	78,487	79,007
Bed spaces	”	202,465	202,372	207,665	209,769	210,136	212,276
Room occupancy rates	%	59.4	56.7	59.6	55.6	59.3	56.9
Bed occupancy rates	%	39.8	35.9	38.5	35.2	39.0	36.3
Gross takings from accommodation	$’000	94,260	91,180	102,062	97,069	106,593	105,613
CARAVAN PARKS(*b*)							
Establishments	Number	1,755	1,728	1,724	1,737	1,745	1,737
Powered sites	”	119,713	118,432	118,761	121,612	122,346	122,590
Unpowered sites	”	58,647	57,570	56,910	57,488	57,218	57,946
Cabins, flats, etc.	”	3,579	3,580	3,473	3,494	3,538	3,508
Total capacity	”	*181,939*	*179,582*	*179,144*	*182,594*	*183,102*	*184,044*
Site occupancy rates	%	33.4	19.9	20.5	22.1	31.6	21.3
Guest nights	’000	16,960	8,564	8,777	10,302	15,768	9,344
Gross takings from accommodation	$’000	20,703	13,008	14,137	16,797	21,440	15,605

(*a*) For the purposes of this survey, hotels, motels and guest houses which provide predominantly short-term accommodation (i.e. for periods of less than two months) to the general public and which provide breakfast. (*b*) For definitions *see Tourist Accommodation* (8635.0).

TRAVEL

The following pages contain statistics of internal travel and travel to and from Australia, together with some descriptive matter.

Holidays

At the Census of Population and Housing, 30 June 1976, a question on holidays was asked of each person. The question was: 'Has the person been away from home ON A HOLIDAY for a week or more since 30 June 1975?'

Almost half of the people who answered this question ticked the 'Yes' box.

The following table shows the results for Australia of the Census of Population and Housing, 30 June 1976.

	Persons	*%*
Yes (had a holiday)	6,383,119	47.1
No (did not have a holiday)	6,742,726	49.8
Not stated	422,603	3.1
Total	**13,548,448**	**100.0**

Internal travel

National Travel Survey

In 1977-78, the Bureau of Transport Economics conducted a survey each month of the Australian tourist market. The survey covered a nation-wide postal survey of households and aimed at obtaining details of non-urban travel (involving travel to a destination of 100 km or more from home only) according to various characteristics such as income, household size, accommodation, duration at destination, region and vehicle type. Preliminary results of the survey are being released progressively in a series of quarterly publications. Data for September quarter 1977 have been published in a paper entitled *Preliminary Results from the National Travel Survey 1977-78* and for December quarter 1977 in *Occasional Paper 22—National Travel Survey 1977-78, Preliminary Statistical Summary.*

Final results of the survey are expected to be released early in 1980.

National Monitor on Domestic Tourism (DTM)

A survey on the travel behaviour of Australian tourists was commissioned by the Australian Travel Research Council in respect of 1973-74. The Survey of Australian Travel obtained details for trips of between one night and three months duration, to a destination of at least 40 km from home. Details sought included income, education level, occupation, ownership of boat, type of accommodation and expenditure.

In 1977 the Australian Standing Committee on Tourism (ASCOT), which is a joint State and Commonwealth body with responsibility for advising Ministers on tourism, commissioned the Roy Morgan Research Centre to conduct a survey on domestic tourism similar to the Australian Travel Survey. The survey began in April 1978 and will run initially for a period of 12 months, but may possibly be extended for another 12 months to assess seasonal influences.

Approximately 1,000 householders throughout Australia are being interviewed each weekend over the period. For all trips taken by households of between one night and three months duration, details are recorded on the purpose of the trip, mode of transport, type of accommodation, length of stay, main destination and en-route stops. This type of information will be cross-classified according to various characteristics such as age, sex, occupation, place of residence and income.

Overseas travel

Statistics about travellers to and from Australia are classified in the first instance by the actual or intended length of stay in Australia or abroad; this classification distinguishes between long-term and short-term movement.

Statistics of permanent and long-term movement are shown in Chapter 6, Demography.

Traveller statistics (overseas visitors and Australian residents)

Statistics of short-term arrivals and departures which are in the nature of travel statistics are given below.

Short-term movement is defined as comprising visitors arriving and Australian residents departing temporarily with the intention of staying in Australia or abroad for less than twelve months, together with the departure of visitors and the return of Australian residents who have stayed in Australia or abroad for less than twelve months.

Short-term movement excludes persons who arrive in and depart from Australia on the same ship's voyage or on the same flight (variously called direct transit or 'through' passengers) or who change flights without leaving the airport's transit area; passengers on pleasure cruises commencing and finishing in Australia; and all crew. However it includes persons who pass through the Customs Barrier and declare the purpose of their visit to Australia to be 'in transit'. Short-term visitors are more numerous than long-term visitors and have come to be regarded as 'tourists' by many users of the statistics.

From October 1967 to December 1971, 276,885 United States troops came to Australia on rest and recreation leave. The last of them completed their leave in January 1972. For statistical purposes they were classified as short-term visitors travelling by air for holiday purposes and their country of residence and country of embarkation or disembarkation were shown as 'Asia—other'.

SUMMARY OF SHORT-TERM TRAVELLER STATISTICS

	Overseas visitors		*Australian residents*	
	Arriving in Australia	*Departing from Australia*	*Departing from Australia*	*Arriving in Australia*
Annual average—				
1961–1965	131,461	135,006	97,041	118,624
1966–1970	297,275	308,325	259,700	258,824
1971–1975	475,925	479,015	631,446	647,608
Year—				
1973	472,124	481,901	620,842	638,141
1974	532,683	515,378	752,218	769,650
1975	516,023	506,454	880,609	911,815
1976	531,868	512,468	968,265	973,799
1977	563,281	540,943	971,253	973,677
1978	630,594	597,123	1,062,234	1,029,482

In addition to the basic classification of travellers shown above, certain other characteristics are ascertained. These characteristics are: sex, age, marital status, country of citizenship, country of birth, occupation, intended or actual length of stay, purpose of journey, mode of transport, country of residence, or where most time was or will be spent, country of embarkation or disembarkation, state of residence or where most time was or will be spent and state of embarkation or disembarkation.

The categories shown in the previous table are cross-classified by various characteristics listed above and resulting statistics are shown in considerable detail in the quarterly and annual publications *Overseas Arrivals and Departures* (3402.0 and 3404.0). Certain unpublished information is available on request. Selected traveller statistics are shown in the following tables.

Short-term travel is subject to marked seasonal variation, December being the peak month for the arrival of overseas visitors and the departure of Australian residents.

OVERSEAS VISITORS AND AUSTRALIAN RESIDENTS: SHORT-TERM ARRIVALS AND DEPARTURES BY MONTH OF ARRIVAL OR DEPARTURE AND MODE OF TRANSPORT, AUSTRALIA, 1978

	Overseas visitors						*Australian residents*					
	Arriving			*Departing*			*Departing*			*Returning*		
Month	*By sea*	*By air*	*Total*	*By sea*	*By air*	*Total*	*By sea*	*By air*	*Total*	*By sea*	*By air*	*Total*
January . . .	528	49,370	49,898	484	72,470	72,954	1,428	72,989	74,417	1,108	142,084	143,192
February . . .	1,093	50,790	51,883	620	57,424	58,044	2,236	54,848	57,084	1,028	68,742	69,770
March	689	54,289	54,978	423	53,536	53,959	1,808	73,781	75,589	982	59,719	60,701
April	279	41,598	41,877	629	47,151	47,780	2,370	85,911	88,281	1,156	61,702	62,858
May	357	41,012	41,369	278	44,482	44,760	2,087	109,009	111,096	1,669	81,339	83,008
June	346	34,467	34,813	462	32,918	33,380	1,219	93,803	95,022	561	69,928	70,489
July	171	44,164	44,335	216	36,550	36,766	1,250	90,218	91,468	691	84,077	84,768
August	220	49,527	49,747	213	46,787	47,000	1,074	110,335	111,409	1,195	89,336	90,531
September . .	151	45,759	45,910	396	47,797	48,193	728	73,018	73,746	571	125,317	125,888
October . . .	331	52,605	52,936	114	48,183	48,297	891	71,956	72,847	678	98,732	99,410
November . .	386	71,081	71,467	511	55,780	56,291	783	64,156	64,939	845	78,758	79,603
December . .	2,028	89,354	91,382	334	49,366	49,700	989	145,348	146,337	1,728	57,536	59,263
Total . . .	**6,579**	**624,015**	**630,594**	**4,681**	**592,442**	**597,123**	**16,863**	**1,045,371**	**1,062,234**	**12,212**	**1,017,270**	**1,029,482**

The following tables show the stated purpose of journey and intended length of stay abroad of Australian residents departing temporarily, and the stated purpose of journey and intended length of stay in Australia of overseas visitors arriving.

AUSTRALIAN RESIDENTS DEPARTING—SHORT-TERM MOVEMENT: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1978

(Persons)

	Stated purpose of journey								
Intended length of stay	*Convention*	*Business*	*Accompanying business traveller*	*Visiting relatives*	*Holiday*	*Employment*	*Education*	*Other and not stated*	*Total*
Under 1 week	1,240	19,194	902	3,201	10,080	1,311	130	3,884	39,942
1 week and under 2 weeks . . .	7,782	21,106	2,201	9,339	92,351	1,176	1,765	7,218	142,938
2 weeks and under 3 weeks . . .	5,831	19,607	2,892	15,377	162,807	829	761	10,066	218,170
3 weeks and under 1 month . . .	3,491	12,137	2,053	21,892	87,193	693	521	6,229	134,210
1 month and under 2 months . .	358	25,628	3,808	52,871	101,959	1,568	664	9,910	196,766
2 months and under 3 months . .	..	9,108	2,006	34,082	52,616	965	472	5,317	104,567
3 months and under 6 months . .	..	5,974	1,744	35,977	55,731	2,221	642	6,063	108,353
6 months and under 9 months . .	..	2,742	1,600	20,518	32,935	2,129	435	4,585	64,945
9 months and under 12 months .	..	1,753	2,138	7,988	14,169	4,067	1,367	4,502	35,982
Indefinite, not stated	..	1,236	655	2,740	8,181	421	141	2,988	16,362
Total	**18,702**	**118,485**	**19,998**	**203,987**	**618,021**	**15,381**	**6,898**	**60,763**	**1,062,234**

OVERSEAS VISITORS ARRIVING—SHORT-TERM MOVEMENT: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1978

(Persons)

	Stated purpose of journey									
Intended length of stay	*In transit*	*Convention*	*Business*	*Accompanying business traveller*	*Visiting relatives*	*Holiday*	*Employment*	*Education*	*Other and not stated*	*Total*
Short-term movement—										
Under 1 week	53,655	2,530	29,479	1,657	6,706	44,631	1,186	150	8,524	148,518
1 week and under 2 weeks . .	2,593	4,508	27,957	1,827	12,354	52,432	379	408	6,177	108,636
2 weeks and under 3 weeks . .	975	2,258	13,509	1,211	20,113	37,233	249	270	5,052	80,871
3 weeks and under 1 month . .	278	795	4,443	271	24,029	22,812	109	20	2,229	54,987
1 month and under 2 months .	..	..	8,976	851	47,640	30,842	554	557	5,589	95,011
2 months and under 3 months .	..	..	2,669	468	20,907	10,660	705	605	2,595	38,610
3 months and under 6 months .	..	..	2,541	844	28,670	11,100	2,106	3,140	4,296	52,696
6 months and under 9 months .	..	..	1,125	549	9,234	5,143	3,858	666	2,774	23,349
9 months and under 12 months .	..	..	1,153	883	1,920	2,701	5,772	4,586	2,470	19,486
Indefinite, not stated	..	..	1,083	244	1,996	2,510	564	176	1,859	8,432
Total	**57,501**	**10,091**	**92,935**	**8,804**	**173,569**	**220,064**	**15,484**	**10,579**	**41,566**	**630,594**

The average intended length of stay abroad of Australian residents departing in 1978 for short-term visits abroad was 55 days. The average intended length of stay in Australia by short-term visitors from overseas was 41 days. Of course, statistics for Australian residents refer to their total time away from Australia; for overseas visitors they refer only to the Australian portions of their trips.

In the case of both Australian residents departing and overseas visitors arriving, the most common reason for visit was 'holiday', followed by 'visiting relatives' and 'business' as the second and third most common reasons.

OVERSEAS VISITORS ARRIVING BY COUNTRY OF RESIDENCE AND INTENDED LENGTH OF STAY, AND AUSTRALIAN RESIDENTS DEPARTING BY COUNTRY OF INTENDED STAY AND INTENDED LENGTH OF STAY: AUSTRALIA, 1978

	Overseas visitors arriving—intended length of stay						*Australian residents departing—intended length of stay*					
Country of residence (visitors) and country of intended stay (residents)	*Under 1 week*	*1 week and under 1 month*	*1 month and under 3 months*	*3 months and under 12 months*	*Indefinite, not stated, etc.*	*Total*	*Under 1 week*	*1 week and under 1 month*	*1 month and under 3 months*	*3 months and under 12 months*	*Indefinite, not stated, etc.*	*Total*
Africa—												
South Africa	1,396	2,061	2,385	993	48	6,882	—	940	2,530	975	68	4,512
Other	679	707	1,437	760	57	3,638	30	909	2,503	1,611	86	5,138
Total, Africa	*2,075*	*2,767*	*3,820*	*1,751*	*105*	*10,520*	*30*	*1,849*	*5,032*	*2,585*	*154*	*9,650*
America—												
Canada	2,550	7,686	5,778	2,817	178	19,009	10	2,719	5,420	2,371	178	10,697
U.S. America	26,868	36,363	11,418	5,581	743	80,972	1,183	54,285	38,993	12,098	1,527	108,086
Other	1,420	1,244	1,023	573	209	4,472	24	920	3,597	2,071	210	6,823
Total, America	*30,838*	*45,292*	*18,222*	*8,971*	*1,130*	*104,454*	*1,217*	*57,924*	*48,010*	*16,540*	*1,915*	*125,605*
Asia—												
Hong Kong	2,270	3,842	1,686	981	101	8.880	2,360	30,664	4,376	2,199	631	40,230
India	1,131	889	718	475	70	3,282	120	2,492	4,555	1,218	133	8,517
Indonesia	2,882	2,994	1,043	1,037	159	8,116	833	23,098	5,988	2,612	379	32,911
Israel	112	627	789	413	41	1,982	20	760	2,974	1,702	75	5,530
Japan	20,049	10,057	1,916	1,578	435	34,035	771	10,365	3,189	657	203	15,185
Malaysia	1,349	3,543	2,743	3,043	162	10,839	770	12,008	4,604	2,246	234	19,862
Philippines	1,284	1,315	654	374	88	3,716	985	11,605	2,898	910	261	16,660
Singapore	2,281	4,328	1,861	747	86	9,306	3,623	28,965	4,058	1,509	524	38,679
Thailand	690	1,033	799	562	48	3,134	240	6,762	1,535	527	130	9,194
Other and unspecified	3,019	3,232	2,071	1,825	319	10,466	390	11,160	7,926	8,447	489	28,412
Total, Asia	*35,066*	*31,862*	*14,281*	*11,036*	*1,509*	*93,754*	*10,112*	*137,882*	*42,103*	*22,025*	*3,059*	*215,181*
Europe—												
Austria	497	484	619	486	41	2,125	20	390	2,144	1,044	60	3,658
France	1,670	1,825	1,213	821	94	5,623	70	1,241	4,064	2,033	97	7,506
Germany(*a*)	4,236	4,954	5,225	3,703	294	18,415	101	2,291	8,070	5,303	243	16,007
Greece	363	385	875	2,039	130	3,792	110	1,511	6,173	23,059	508	31,361
Italy	1,140	1,786	2,820	3,120	228	9,092	51	2,151	12,611	19,360	508	34,681
Netherlands	1,447	2,167	4,843	2,923	90	11,471	50	1,330	6,088	4,031	155	11,653
Switzerland	1,150	1,450	1,273	817	69	4,758	40	760	2,315	962	49	4,127
U.K. and Ireland	9,387	21,757	34,231	25,337	741	91,455	884	16,955	101,456	68,083	2,462	189,839
U.S.S.R.	168	222	138	232	18	777	—	250	461	190	18	919
Yugoslavia	234	287	725	2,238	107	3,589	70	290	3,724	11,298	272	15,655
Other and unspecified	2,646	3,266	2,658	3,460	248	12,275	110	1,781	10,341	13,427	528	26,188
Total, Europe	*22,937*	*38,557*	*54,618*	*45,175*	*2,060*	*163,349*	*1,506*	*28,950*	*157,448*	*148,790*	*4,900*	*341,594*
Oceania—												
Fiji	2,510	2,708	1,172	885	76	7,350	2,367	55,614	1,791	840	1,017	61,629
New Caledonia	2,770	2,401	2,211	628	162	8,171	1,312	15,026	451	190	287	17,267
Papua New Guinea	6,377	7,431	7,331	3,979	335	25,452	3,342	11,462	4,890	4,625	498	24,817
New Hebrides	420	312	272	83	22	1,108	300	6,130	270	174	126	7,000
New Zealand	40,588	108,470	28,363	20,315	2,454	200,187	16,627	151,263	31,487	7,506	2,853	209,735
Norfolk Island	226	456	180	65	28	954	1,176	8,880	351	103	219	10,729
Other	1,497	719	726	895	40	3881	753	7,157	1,270	751	125	10,056
Total, Oceania	*54,388*	*122,495*	*40,253*	*26,851*	*3,117*	*247,104*	*25,876*	*255,532*	*40,512*	*14,188*	*5,125*	*341,232*
Other	3,212	3,498	2,425	1,745	511	11,390	1,202	13,182	8,228	5,152	1,209	28,973
Total	**148,518**	**244,494**	**133,621**	**95,531**	**8,432**	**630,594**	**39,942**	**495,318**	**301,333**	**209,280**	**16,362**	**1,062,234**

(*a*) Comprises the German Democratic Republic and the Federal Republic of Germany.

CHAPTER 27

THE TERRITORIES OF AUSTRALIA

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The internal Territories of Australia are the Northern Territory and the Australian Capital Territory. External Territories under the control of Australia are: Norfolk Island; the Territory of Heard and McDonald Islands; the Australian Antarctic Territory; the Territory of Cocos (Keeling) Islands; the Territory of Christmas Island; and the Territory of Ashmore and Cartier Islands.

Information on all Territories except Ashmore and Cartier Islands is contained in the following pages, and details of the acquisition of all the Territories will be found on pages 8 and 9 of Chapter 1. More detailed statistics and additional descriptive matter are to be found in the Annual Reports of the Administrations of the various Territories and in the *Northern Territory Statistical Summary* (1306.7) and the *Australian Capital Territory Statistical Summary* (1307.0) issued by the Bureau. Statistics for the Northern Territory and the Australian Capital Territory are also included in chapters dealing with particular subjects.

THE NORTHERN TERRITORY

General Description

The total area of the Northern Territory is 1,346,200 square kilometres.

Area, legislation and administration

Upon the extension of New South Wales westwards to the 129th east meridian in 1825, the Northern Territory was incorporated in that colony, but in 1863 it was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1 January 1911.

From 1911 until 30 June 1978, the Commonwealth administered the Northern Territory under the provisions of the *Northern Territory (Administration) Act* 1910. The Act provided for an Administrator, appointed by the Governor-General, to administer the Northern Territory on behalf of the Commonwealth Government.

By amendment of the Act in 1947, a Legislative Council comprising seven official and six elected members with the Administrator as President, was created to make laws for the peace, order and good government of the Territory. Composition of the Legislative Council was changed by further amendment in 1959 to provide for six official members, three nominated non-official members and eight elected members, and for an Administrator's Council to advise the Administrator. The Act was further amended in 1974 to provide for a Legislative Assembly comprising nineteen elected Members, and for a Speaker to be one of those Members elected by the Members.

Laws passed by the Assembly were presented to the Administrator for assent. The Administrator was required to reserve laws on specific subjects for the pleasure of the Governor-General who was empowered to assent, withhold his assent or refuse his assent in part to such laws, or to return them to the Assembly with recommended amendments.

In 1977, the Commonwealth Government commenced a program of transferring executive powers to the Legislative Assembly.

On 1 January 1977, a separate Northern Territory Public Service was created and administrative powers related to a number of state-type activities such as police, fire brigades, local government and correctional services were transferred.

Positions of Executive Member were created under the Act with those members exercising ministerial-type powers in respect of transferred matters and forming an Executive Council to replace the Administrator's Council.

On July 1 1978, the Northern Territory (Self-Government) Act came into force establishing the Northern Territory as a body politic under the Crown. This act continued in force the existing Legislative Assembly and created offices of Ministers of the Territory who comprise the Executive Council of the Northern Territory. The Office of Administrator appointed by the Governor-General remained. The Administrator administers the Territory on behalf of the Government of the Northern Territory in respect of matters transferred from the Commonwealth to the Northern Territory and on behalf of the Commonwealth in respect of matters retained by the Commonwealth.

A Northern Territory Government comprising Ministers of the Territory was established with full responsibility for a wide range of transferred powers administered through a Northern Territory Public Service and Treasury. A Territory flag was raised for the first time on 1 July 1978.

Laws passed by the Legislative Assembly are presented to the Administrator who acts with the advice of the Territory Government in respect of transferred powers and with the advice of the Commonwealth in respect of matters not transferred.

Major matters not transferred on 1 July 1978 were mining of uranium and other prescribed substances, Aboriginal land matters, health, education, and the Supreme Court. Powers in respect of health, education and the Supreme Court were progressively transferred from the Commonwealth to the Northern Territory Government.

At the end of 1979 the only major powers retained by the Commonwealth in the Northern Territory were those relating to rights in respect of Aboriginal land and the mining of uranium and other prescribed substances. At the end of 1979 the Northern Territory, although remaining a Territory of the Commonwealth and still subject to Commonwealth laws made under section 122 of the Constitution, is in most respects a self-governing Territory. It is governed by an executive drawn from an elected assembly and has its own judiciary, treasury and public service.

The Territory is represented in the Parliament of the Commonwealth by one Member in the House of Representatives and two Senators.

Physical geography

The Territory is within the torrid zone, with the exception of a strip about 300 kilometres wide which lies south of the Tropic of Capricorn.

The low flat coastline seldom reaches a height of 30 metres. Sandy beaches and mud flats, thickly fringed with mangroves, prevail. Sandstone, marl and laterite form the occasional cliffy headlands. The coastline of 6,200 kilometres is indented by bays and inlets and intersected by numerous rivers, many of which are navigable for considerable distances from their estuaries. The only practicable deep-water port for general use, however, is Darwin.

Inland, the country generally is devoid of conspicuous landmarks. From the coast there is a general rise southwards to the vicinity of the seventeenth or eighteenth parallel of south latitude, where the higher lands form the watershed between the rivers that flow northwards to the sea and those that form the scanty supply for the interior system. Towards the centre of the continent the land over a wide area is of considerable elevation, and there are several mountain ranges, generally with an east and west trend.

Climate, fauna and flora

There are two main climatic divisions: the wet season, November to April; and the dry season, May to October. The changes of weather are uniform and regular. Nearly all the rainfall occurs in the summer months.

The ordinary types of native Australian fauna inhabit the Territory. As elsewhere on the continent, the higher *Theria* are rare, but marsupials, birds, crocodiles, fresh-water tortoises, snakes (mostly non-venomous), and frogs abound. There are many varieties of fresh-water fish and littoral Mollusca. Butterflies and beetles are strongly represented. The termite is a pest which is capable of serious damage to wooden buildings unless special preventive measures are taken. Mosquitoes and sandflies are very troublesome in the 'top end', particularly in the wet season. Buffaloes exist in large herds on the northern coastal plains. Most types of native fauna are protected.

The vegetation is north Australian in type, but a number of forms belong to the Malayan and Oceanic regions. The climate and generally poor soils associated with it give rise to tropical savannah vegetation, with the size and volume of woody material present being closely related to rainfall and the quality of the forests decreasing strikingly as one proceeds inland from the northern coastline. In the north, cypress pine (which is termite resistant), ironwood, bloodwood and paperbark timbers are cut and milled for local building purposes. Further inland, particularly on the Barkly Tablelands and parts of the Victoria River district, there are better grazing grasses and some shrubs, while the wide belt of sandy plain between the Barkly Tableland and the ranges in the Alice Springs area carries mainly spinifex grass and low scrub. The plains of the Alice Springs district carry chiefly an acacia scrub known as mulga, spinifex and other sparse grasses. The principal families represented in the interior are *Gramineae, Chenopodiaceae, Compositae and Mimosaceae.*

Population

See also Chapter 6, Demography.

The population of the Northern Territory at the census of 30 June 1976, as adjusted for under-enumeration, was 101,400 persons.

Aboriginal Affairs

Policy

The Government is committed to the policies of Aboriginal self management at all levels, and Aboriginal self sufficiency. Involvement of Aboriginals in delivery and planning programs, and in all stages of the development and implementation of policy is paramount.

The basis of the Government's approach is to secure for Aboriginals access to government services equal to that accorded other Australian citizens, together with additional services appropriate to Aboriginals' state of extreme disadvantage, and, in recognition of a community obligation deriving from Aboriginals' past dispossession and dispersal, to secure for them certain special benefits not available to other citizens, provided such special benefits are sanctioned by the Parliament.

Legal status

As Australian citizens, Aboriginals are entitled to equality before the law. For the purpose of administering various programs designed to benefit Aboriginals, the Department of Aboriginal Affairs and other Commonwealth Government departments and agencies define an 'Aboriginal' or 'Torres Strait Islander' as a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he lives.

Land and land rights

The *Aboriginal Land Rights (Northern Territory) Act* 1976–78 gives traditional Aboriginals inalienable freehold title to former reserve land in the Northern Territory and provides a procedure for them to claim title to other areas of unalienated Crown land.

The former reserve land granted to Aboriginals totals 249,013 square kilometres, or 18.4 per cent of the area of the Northern Territory.

Aboriginals who are able to prove strong traditional links with unalienated Crown land may make a claim before the Aboriginal Land Commissioner, a judge of the Northern Territory Supreme Court. The Aboriginal Land Rights Act requires the Land Commissioner, in hearing a claim, to consider a number of matters in addition to traditional ownership before making a recommendation to the Minister for Aboriginal Affairs. The Minister can then accept or reject the Land Commissioner's recommendations.

Many Aboriginal land claims have been lodged with the Land Commissioner. Several have been finalised and others are in the process of being heard.

Titles to Aboriginal land are held by Aboriginal Land Trusts and the land is administered by Aboriginal Land Councils.

Minerals on Aboriginal land remain the property of the Crown. The Aboriginal Land Rights Act provides, however, that mineral exploration can only proceed with the approval of the appropriate land council who, in turn must consult with the traditional Aboriginal owners of the area concerned. There is provision in the Act for the objections of the land council to be over-ridden, in the national interest, and for the Minister for Aboriginal Affairs to appoint an arbitrator if the land council is unable or unwilling to reach agreement with a mining interest. Certain exceptions to the requirement for Aboriginal consent were created by the Act and these include the Ranger Project Area and the Jabiluka deposit.

Royalties from mining on Aboriginal land are paid into an Aboriginal Benefits Trust Account and are distributed to pay administrative expenses of land councils, to communities affected by mineral developments and, on the recommendation of an advisory committee, to Aboriginal communities of the Northern Territory generally. Control of uranium mining has been reserved by the Commonwealth and special arrangements have been made between the Commonwealth and the Northern Territory Governments in relation to payments in lieu of royalties.

Aboriginal communities are also being assisted to purchase land off reserves. An Aboriginal Land Fund was established in 1974 for this purpose.

Community services and affairs

Government policy in the administration of Aboriginal affairs is to encourage existing State and Commonwealth departments and instrumentalities to provide services to Aboriginals as to other Australian citizens and to take special measures to ensure that these services are appropriate, accessible and reflect the variety of Aboriginal life styles. In line with the transfer of other functions to the Northern Territory Government on 1 July 1978, the Northern Territory Government has assumed responsibility for the provision of major services to Aboriginal communities including essential services such as water and power supply, health, education and support for local government. Housing however, remains the responsibility of the Commonwealth.

Special programs for Aboriginals

Attention is being given to changing the institutional character of Aboriginal reserve communities in the Northern Territory. Support is designed to encourage and strengthen the capacity of Aboriginals to manage their own affairs, to increase their economic independence, and to reduce social handicaps facing them.

Government policy is to provide Aboriginal primary school children in Aboriginal communities with education in their own language as far as practicable. Bilingual education programs initiated in Northern Territory Aboriginal communities in 1973 have been expanded and are operating in several schools. There are some 2,400 children receiving part of their instruction in their mother tongue.

Aboriginal Legal Services operated by Aboriginals and supported by the Department of Aboriginal Affairs have been established on the initiative of Aboriginal groups in all States and the Northern Territory to ensure that Aboriginals have access to legal advice and are competently represented in the courts.

Production

See also the chapters dealing with particular subjects.

Land tenure

On 30 June 1979, 74,000 hectares were held under freehold title; 80,570,800 hectares under leasehold; 2,311,200 hectares under various licences; 25,704,000 hectares were reserved for public purposes and for the benefit of Aborigines; and 25,960,000 hectares were unalienated. Land rent collected for the year 1978–79 amounted to $358,564.

Following the report of the Aboriginal Land Rights Commissioner in April, 1974 the Commonwealth Government introduced the *Aboriginal Land Rights (N.T.) Act* 1976. This Act which commenced on Australia Day, 26 January 1977 provides for the granting to Aboriginals of a title in fee simple, of traditional Aboriginal land in the Northern Territory.

Existing reserves for the use and benefit of Aboriginals will be subject to fee simple title pursuant to the provisions of the Act, while title to other areas of land over which traditional rights are claimed are subject to hearings by the Aboriginal Land Commissioner, who must be a Judge of the Supreme Court of the Northern Territory.

Early in 1979, Mr R. J. Withnall was requested by the Northern Territory Government to submit a report on the urban land laws of the Northern Territory and proposals for their reform. In September, 1979, Mr Withnall submitted his report which is under consideration.

The various forms of lease or licence of lands are as follows:

Pastoral leases —granted for periods not exceeding 50 years.
Agricultural leases —granted in perpetuity over areas generally limited to a maximum of 40,470 hectares approximately.
Leases of town lands —granted in perpetuity.
Special purposes leases —granted for a term of years or in perpetuity for purposes other than pastoral, agricultural or mining, or for private residential purposes within a town.
Church lands leases —granted for church purposes at a nominal rent in perpetuity.
Miscellaneous leases —granted for any prescribed or approved purpose for a term of years or in perpetuity.
Grazing licences —granted to graze stock on Crown Lands for periods not exceeding one year.
Occupation licences —granted for manufacturing, industrial or any prescribed purposes for periods not exceeding five years.
Miscellaneous licences —granted for periods not exceeding one year.

With the exception of leases within the Darwin Town Area or a municipality—which are granted at nominal rentals (10 cents per annum if and when demanded), the foregoing leases and licences are granted at specified rentals, or at rentals fixed by the Administrator and subject to reappraisement, and under various prescribed or specified conditions.

Pastoral and agricultural industries

Beef cattle production is the major rural industry in the Northern Territory. The beef industry has been characterised throughout its history by a slow rate of expansion due to the poor quality of native pastures and unsatisfactory market outlets. Developments in pasture improvement and the use of adapted Zebu cross-cattle in the northern areas, the opening in 1963 of the export abattoirs in

Katherine and Darwin, some improvement in disease control coupled with better management techniques, and various incentives and research programs introduced by the Government to encourage development of the pastoral industry have resulted in an increase in turnoff figures and value of production during the late 1960's and early 1970's.

In the mid 1970's industry development suffered a major set-back due to a prolonged period of low export meat prices despite the upgraded export status given to Katherine and Point Stuart meatworks as well as the development of a new live cattle export market in Malaysia. Over that period cattle numbers increased by approximately 400,000 head to 1.8 million, reflecting the high cost of management and freight together with the non-profitability of cattle sold to market.

In 1977, the industry suffered a further set-back due to the identification of what later proved to be a non-virulent strain of Blue Tongue, but in the interim resulted in the introduction of cattle movement restrictions internally and bans on live cattle exports which were not lifted until mid-1978.

Since mid-1978, the industry has seen a dramatic upturn in prices by more than 150 per cent. This has lifted cattle turn-off to market and total beef earnings from around $20 million in 1976 to approximately $70 million in 1979. The value and volume of agricultural production continues to fluctuate with successive attempts and failures at large scale 'corporation' farming.

Following Cyclone Tracy there has been growth in the horticultural industry, with attempted diversification of production, and marked growth in the nursery industry. However marketing problems still impede the development of most agricultural industries. Approximately 120,000 hectares of improved pastures have been sown for more intensive beef production, although new sowings have decreased in recent years in response to difficulties in the beef industry.

Animal production has continued to be augmented by the buffalo meat industry. Development in the domestication of buffaloes continues on the sub-coastal plains properties. Both the pig and poultry industries, unaffected by overseas marketing, have continued to expand.

Continuing private investment in rural development is leading to greater pressures upon the Government for extension services and research. The work of CSIRO and the Dept. of Primary Production research stations and experimental farms is providing the basis for continuing rural development. As new knowledge is being gathered it will be followed by testing on farm scale.

The research institutions in existence in the Northern Territory are as follows:

Arid Zone Research Institute—Alice Springs. With the completion of the new research laboratory in 1967, more emphasis is being placed on arid zone research in the 'Centre' and on the need to conserve valuable pastoral lands while achieving maximum productivity. Fields of work at the Institute include animal health, agriculture, soil conservation, botany, animal production and range management.

Coastal Plains Research Station. The station has 3 main roles: one as a regional station examining suitable pasture and animal production systems in the Coastal Plains/Darwin area; second involving basic studies into breeding and breeds with wider implications; and a third as the major centre for rice research. Its efforts have been devoted to the animal breeding investigations, with some attention being paid to the development of improved pasture systems including establishment, maintenance and the reaction to various grazing rates. Breeding trials are being conducted with Brahmans and Africander cross-breds, and Shorthorns. Banteng (Bali) cattle are being studied as a source of tropical blood for breeding cattle adaptable to Territory conditions and a small herd of cross-bred cattle has now been developed. Buffalo/Brahman comparison studies are also being taken.

Victoria River Experiment Station. This is the only Government Experiment Station in the rangelands of the Northern Territory. Work is being undertaken on: genetic improvement of the local breed of Shorthorn cattle; evaluation of improved pastures; supplements; breed comparisons; and range management studies.

Upper-Adelaide River Experiment Station. The station is mainly concerned with regional investigations of pasture and animal production for the Marrakai area including stocking rates on improved and native pastures, comparison studies of improved pastures and testing of new potential pastures, management of pastures on flood plains, feeding supplementation trials and rice production.

Berrimah Experiment Farm. The work of this farm has been mainly restricted to pasture and crop investigations; plant introduction; fruit, vegetable and weed control trials; and intensive animal studies.

Katherine Experiment Farm. This farm services the southern part of the Daly River Basin and has a larger component of cropping work than other stations. Work being conducted includes utilisation and management of improved pastures; sorghum, mung beans, with minor projects on pigeon peas and cow peas and various aspects of cattle management.

Douglas-Daly Experiment Station. This station is concerned with developing animal production systems for the higher rainfall part of the Daly River Basin, including evaluation of pastures under grazing/stocking rates, supplementary feeding, use of fertilisers, pasture establishment, pasture animal production trials and investigation of peanut, maize and soybean production.

Other research sites. Research and trials are also being conducted at selected sites on maize, soybeans, sorghum, peanuts, *Stylosanthes spp.* and weed control.

NORTHERN TERRITORY: NUMBER, AREA AND LAND UTILISATION OF RURAL ESTABLISHMENT

	Number of rural establishments	Area used for crops (a)	Area under sown pastures and grasses	Balance of area (b)	Total	
					Area	Percentage of N.T. land area (134,620,000 hectares)
	Number			'000 hectares		
1973–74	394	5.5	127.1	79,353.9	79,486.5	59.0
1974–75	385	7.4	129.1	79,210.5	79,347.1	58.9
1975–76	361	8.3	115.8	78,662.5	78,786.6	58.5
1976–77	289	2.4	112.8	75,263.3	75,378.5	55.9
1977–78	297	0.8	112.3	75,410.0	75,523.1	56.0
1978–79	290	0.8	111.3	77,619.6	77,731.7	57.7

(*a*) Excludes duplication on account of area double cropped. (*b*) Used for grazing, lying idle, fallow, etc.

NORTHERN TERRITORY: RURAL STATISTICS

	Unit	1973–74	1974–75	1975–76	1976–77	1977–78	1978–79p
Livestock numbers—							
Cattle	'000	1,320.9	1,434.4	1,602.8	1,663.7	1,674.1	1,784.6
Domesticated buffaloes . . .	'000	4.4	3.2	3.3	3.7	4.2	3.6
Poultry	'000	66.7	15.3	139.7	174.9	182.4	200.3
Pigs	'000	7.8	7.3	7.0	7.4	3.2	3.1
Gross value of livestock slaughterings and other disposals—							
Cattle and calves	$'000	25,148	9,445	9,456	22,834	29,291	106,890
Poultry	$'000	31	9	2	534	633	633
Pigs	$'000	297	268	559	602	687	390
Gross value of livestock products—							
Dairy products	$'000	80	167	113	142	72	72
Eggs	$'000	915	853	900	898	1,300	1,292
Crops, Area—							
Sorghum (grain & feed) . . .	Hectares	4,051	4,286	3,934	1,705	144	764
Hay	Hectares	367	34	236	195	66	251
Tree fruit	Hectares	32	19	40	26	15	15
Bananas	Hectares	20	11	19	11	14	12
Vegetables	Hectares	175	131	143	97	108	119
Pastures & grasses (hay, seed, green feed)	Hectares	4,728	2,715	2,058	2,175	1,591	2,123
Total area used for crops (incl. pastures & grasses)	Hectares	10,282	10,158	10,331	4,566	2,407	3,697
Crops, Production—							
Sorghum for grain	Tonnes	6,674	6,784	4,986	1,335	41	331
Hay	Tonnes	2,334	60	1,022	1,457	200	1,956
Bananas	Tonnes	274	138	121	70	89	124
Pastures & grasses (hay, seed) .	Tonnes	10,441	3,280	4,869	7,056	5,083	5,583
Gross value of crops—							
Sorghum for grain	$'000	n.p.	n.p.	414	117	4	6
Fruit	$'000	76	66	66	36	60	220
Vegetables	$'000	181	147	122	132	421	588
Pastures & grasses	$'000	389	168	104	152	231	164
Total crops (incl. pastures and grasses)	$'000	1,215	960	790	545	1,194	1,104
Gross value of agriculture . . .	$'000	27,686	11,702	11,820	25,555	33,177	110,381

Mining

During 1977–78 the mining industry continued to be the major contributor to the income of the Northern Territory. Minerals produced were valued at $72.3 million in 1975–76 and at $131.5 million in 1976–77 and at $129.9 million in 1977–78. Much of the increased value in 1976–77 and 1978 reflects higher prices of manganese, bauxite and alumina.

The main minerals produced during 1977–78 were bauxite from the Gove Peninsula, manganese from Groote Eylandt and gold, copper and bismuth from Tennant Creek. Most of the Northern Territory ore production is exported to Japan. European countries and the U.S.A. are the other major purchasers of minerals.

The production of manganese from extensive deposits at Groote Eylandt supplies all Australia's requirements of metallurgical grade manganese ore.

The value of gold production in 1977–78 was $17.6 million, nearly all produced in the Tennant Creek area. Due to the unfavourable world price of copper in 1977–78, only those mines producing ores with a high gold content are now viable, and the flash smelter installed at Tennant Creek in 1973 to produce blister copper has remained shut down since its closure in February 1975.

Reserves of the four major uranium deposits (Ranger, Nabarlek, Jabiluka and Koongarra), discovered in the Alligator Rivers area some 240 kilometres east from Darwin, exceed 300,000 tonnes of uranium oxide, i.e. about 10 percent of the known world reserves.

In the McArthur River District a pilot plant was operated throughout the year as part of a program to discover an economic ore treatment method for the extensive, medium-grade, but extremely finely disseminated lead-zinc sulphide deposits contained in an orebody estimated at 227 million tonnes.

NORTHERN TERRITORY: MINING ESTABLISHMENTS

		1974–75	*1975–76*	*1976–77*	*1977–78*
Establishments operating end of June	No.	15	13	14	13
Average employment over whole year—persons (*a*)	No.	1,180	1,221	1,203	1,164
Wages and salaries	$m	15.9	14.8	16.9	16.9
Turnover	$m	91.6	90.2	148.7	124.9
Opening stocks at 30 June	$m	12.5	19.8	19.7	19.3
Closing stocks at 30 June	$m	17.5	18.3	20.2	20.3
Purchases, transfers in and selected expenses	$m	27.4	32.0	37.1	30.1
Value added (*b*)	$m	69.2	56.7	112.2	95.8
Fixed capital expenditure (*c*)	$m	14.7	13.6	10.1	8.7

(*a*) Includes working proprietors. Prior to 1977–78 employment shown at 30 June. (*b*) Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. (*c*) Outlay on fixed tangible assets less disposals.

Petroleum and natural gas

Off-shore operations represented the main activity in petroleum exploration during 1977–78. At 30 June 1978 there were five on-shore oil permits covering 84,800 square kilometres and eight off-shore permits covering 590 blocks. Three on-shore oil leases covering 2,340 square kilometres are under application.

Forestry

Forestry activities in the Northern Territory commenced in 1959 under the Forestry and Timber Bureau; later a State-type service was developed under the Department of the Northern Territory.

In July 1978, with the granting of self-government, Forestry became the responsibility of the Territory Parks and Wildlife Commission.

Present activities fall into four main areas: Urban Forestry, Plantation Forestry, Native Forest Management and Conservation.

The Urban Forestry section is aimed at improving the urban environment throughout the Northern Territory through programs of park and street beautification.

The Plantation Forestry section is predominately based on plantation establishment on more favourable sites on Melville Island. The program which at this time is totally research oriented with limited plantings, is ultimately aimed at import replacement. Major species in use is *Pinus caribaea*, though early plantings were largely Cypress pine, *Callitris intratropica*, which had demonstrated considerable early promise, but subsequently failed to maintain growth rates at a satisfactory level.

Management of native forest is currently confined to the Murganella area of Arnhem Land where a policy of protection from fire has resulted in extensive regeneration of Cypress Pine. Current research in this area is aimed at development of sound management prescriptions for treatment of this regeneration.

In its conservation role, Forestry has given emphasis to fire and ecological studies, throughout the Territory.

Fishing

Following preliminary surveys which indicated the existence of valuable prawn resources off the Northern Territory coast, prawning operations were approved in 1968 in waters adjacent to the Territory. Two prawning companies are now operating, one of which is a joint Australian-Japanese venture. One prawn processing plant is in operation in Darwin and another operates on Groote Eylandt. Boats and equipment valued at $83 million were based in the Northern Territory in 1978–79. During 1978–79, 3.1m kilograms live weight of prawns were caught by Northern Territory prawning ventures. The other main fishing in the Territory is that based on barramundi in estuaries and inshore areas. This species also provides good sport fishing in inland areas. Commercial catches of barramundi totalled 917,417 kilograms (live weight) for 1978–79.

NORTHERN TERRITORY: PRINCIPAL FISHERIES

		1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
Prawns—							
Estimated gross weight of prawn catch	tonnes	4,489	3,346	3,191	2,882	2,165	3,064
Gross value of prawns	$'000	6,509	5,019	4,222	8,647	8,100	14,508
Fish—							
Estimated live weight of fish catch . .	tonnes	846	781	978	1,483	1,451	1,576
Gross value of fish	$'000	749	613	969	1,664	1,900	2,334
General fisheries—							
Number of boats engaged		276	194	289	290	380	561
Number of persons employed . . .		788	638	830	934	1,258	1,602

Secondary Industries

The types of secondary industries that have developed in the Northern Territory have been largely service industries based on demand for local markets, together with the processing of primary production for export including the processing of mined ores, prawns and beef. The isolation of the Northern Territory from the major population areas of Australia and the resultant high transportation costs make other than local market expansion difficult.

The extent of importation of commodities into the Northern Territory, significant underdeveloped raw resources and a growing population would suggest that potential exists for industrial expansion. Some see the proximity of South East Asian markets to Darwin as providing considerable future potential for export-orientated secondary industry development.

The following table shows results of the Manufacturing Censuses taken in respect of the years 1975–76 and 1977–78.

NORTHERN TERRITORY: MANUFACTURING ESTABLISHMENTS

		1975–76(a)	*1976–77*	*1977–78*
Establishments at 30 June	No.	69	67	64
Persons employed (*b*)	No.	2,036	1,624	1,498
Wages and salaries	$m	20.5	17.8	18.2
Turnover	$m	127.1	124.1	145.2
Opening stocks at 30 June	$m	34.3	35.4	44.9
Closing stocks 30 June	$m	35.9	41.9	46.5
Purchases, transfers in and selected expenses	$m	82.9	84.4	90.7
Value added (*c*)	$m	45.8	46.2	56.1

(*a*) Classified to industry according to the 1978 edition of the Australian Standard Industrial Classification (ASIC). The 1969 Preliminary edition of the ASIC was used in preceding years. The effects of the change in industrial classification are insignificant in relation to the data contained in this table. (*b*) Average over whole year. Includes working proprietors. (*c*) Sales, transfers out and other operating revenue plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

Tourism

Tourism has become one of the Territory's major industries in recent years and is likely to play an increasingly important role in the Territory's economy. Prior to Cyclone Tracy the industry had sustained growth rates of the order of 12 per cent per annum. In 1971, visitors numbered 112,800, with 12,000 of these coming from overseas. Ayers Rock provides the most reliable long-term visitor figures which show that from a visitor total of 5,000 in 1961, numbers had increased to 38,000 in 1971 and to 65,000 in 1978. Despite the setback suffered by the Top End as a result of Cyclone Tracy, the industry there already shows signs of resurgence, while the Centre has experienced continued growth.

For 1979–80 the Northern Territory Tourist Board has been allocated $1.3 million for development of the industry. Bureaux are currently in operation in Sydney, Melbourne, Adelaide and Brisbane, and the Territory operations are controlled by two regional managers working from Bureau offices in Darwin and Alice Springs.

National Parks and Reserves

About 43,000 square kilometres have been set aside as wildlife sanctuaries under the *Wildlife Conservation and Control Ordinance*. They are controlled by the Chief Inspector of Wildlife, who is an officer of the Northern Territory Public Service. Wildlife protected areas total 236,000 square kilometres, the bulk of which consists of Aboriginal reserves.

The Northern Territory Reserves Board administers some 42 national parks and reserves covering an area of 125,060 hectares. The Board is responsible under the *National Parks and Gardens Ordinance* for the care, control and management of these reserves, and its functions include the preservation and protection of natural and historical features and the encouragement of public use and enjoyment of land set aside in such reserves.

Trade, transport and communication

Trade

No comprehensive record is kept of the trade between the States and the Northern Territory. The following table shows the values of the principal commodities imported into and exported from the Northern Territory from or to overseas countries.

NORTHERN TERRITORY: PRINCIPAL OVERSEAS IMPORTS AND EXPORTS

($'000)

Commodity	*1972–73*	*1973–74*	*1974–75*	*1975–76*	*1976–77(a)*	*1977–78*
IMPORTS						
Automotive spirit	1,399	192	3,801	4,786	7,566	9,843
Automotive distillate	1,185	1,507	3,772	3,780	6,054	9,172
Furnace fuel	2,233	8,505	13,407	19,332	13,502	31,397
Chemical elements and compounds	3,282	2,144	7,760	6,834	5,463	9,656
Timber	771	1,235	1,754	1,887	2,573	1,157
Machinery and transport equipment	32,827	17,579	7,332	7,314	16,112	13,759
Other articles	7,893	7,270	11,069	15,226	21,071	24,613
Total imports	**49,590**	**38,432**	**48,895**	**59,159**	**72,341**	**99,597**
EXPORTS(*b*)						
Meat and meat preparations	7,375	6,047	2,698	2,076	1,771	3,037
Fresh prawns and shrimps	4,479	4,162	3,140	3,005	4,291	7,941
Iron ore and concentrates	5,656	4,939	1,549	606	–	–
Other metalliferous ores and metal scrap	22,918	27,149	37,379	53,825	69,549	57,227
Inorganic chemicals elements metallic oxides, etc.	22,258	35,775	56,786	83,374	87,808	115,898
Ships, boats and floating structures	14,881	3,185	11,519	322	950	4,067
Other articles	18,131	5,525	3,993	8,643	5,364	5,145
Total exports	**95,698**	**86,782**	**117,064**	**151,851**	**169,733**	**193,314**

(*a*) Import figures from 1976–77 are not comparable with previous years because of the change in the basis of valuation (*see* page 662).
(*b*) Includes Australian produce and re-exports.

Railways

The Australian National Railways operates the Central Australia Railway from Port Augusta in South Australia to Alice Springs over a distance of 1,226 kilometres, of which about 322 kilometres are in the Northern Territory. The line is standard gauge from Port Augusta to Marree, a distance of 357 kilometres, and narrow gauge (1,067 mm) from Marree to Alice Springs. The Commonwealth Government has approved the construction of a standard gauge line between Tarcoola and Alice Springs to replace the Marree-Alice Springs section of the Central Australia Railway; survey work has commenced. The train service on the North Australia Railway which operated from Darwin to Birdum ceased on 30 June 1976 by direction of the Commonwealth Government.

Roads

The Stuart Highway is the principal north-south axis route for the Northern Territory connecting Alice Springs, Katherine, Tennant Creek and Darwin to Adelaide. The section Darwin-Alice Springs is 1,494 kilometres long and sealed over its full length. The section south of Alice Springs is sealed to the South Australian border, a distance of 283 kilometres.

The Barkly Highway is the principal route to and from Queensland via Mount Isa. It is 648 kilometres long and is sealed. Running approximately east-west, it connects to the Stuart Highway some 26 kilometres north of Tennant Creek.

The Victoria Highway, the principal access route to and from Western Australia via Kununurra, is 467 kilometres long and is sealed.

These highways are used to carry a variety of freight, including cattle, particularly between the railheads at Mount Isa and Alice Springs. They provide access to meatworks at Wyndham (Western Australia), Cloncurry (Queensland) and Katherine. In addition, they play a particularly important part in the Northern Territory economy through their association with the tourist industry.

The first program for upgrading the Stuart and Barkly Highways is complete, while the second program is nearing completion. Future works will be an ongoing program to bring these roads to National Highway Standards.

Water

The Northern Territory Government provides water and waste-water facilities in main centres including Darwin, Alice Springs, Tennant Creek, Katherine, Adelaide River, Batchelor and Pine Creek and in many Aboriginal communities.

Piped water supplies are available in a number of small settlements including Mataranka, Larrimah, Daly Water, Elliott, Ti Tree and Finke.

Darwin is served by the Darwin River Dam located some 70 km from the city. The earth rockfill dam was completed in 1972, it is 30 m high with a crest length of 564 m, it has an active storage of 230 million cubic metres and a safe draft of 90 megalitres per day. A supplementary source of supply is the McMinn's borefield with an assessed safe yield of 60 megalitres per day.

Other towns derive water from underground sources. Alice Springs has seventeen bores at Roe Creek, Tennant Creek has nine bores: six at Kelly Well and three at Cabbage Gum. Katherine is supplied from Tindal limestone acquifer. This water is very hard and a surface water source is being developed at Donkey Camp on the Katherine River.

Feasibility studies are being undertaken to assess the economic viability of a number of multi-purpose dams on the various river systems of the Northern Territory.

Soil Conservation

The Land Conservation Unit of the Territory Parks and Wildlife Commission administers the Soil Conservation & Land Utilization Act of the Northern Territory and undertakes resource inventories to assess land capabilities.

Soil erosion control works are being continued in the Ord River Area and around Alice Springs. Land capability assessments are undertaken on the request of the Government departments, authorities and the private sector.

Shipping

Shipping services to Darwin are provided from the Eastern States by the Australian National Line container/bulk ore vessel, the MV Darwin Trader on a six weekly service, and from Western Australia by Western Australian State Shipping Service using two unit load vessels providing a fortnightly service. Tankers from Australian and overseas ports deliver oil products to Darwin. General cargo vessels from overseas ports also visit Darwin. The prawning and fishing industry accounts for a significant portion of the shipping entries into the port.

John Burke Pty Ltd operates a regular shipping service from Brisbane to the Gulf of Carpentaria ports which serves Aboriginal communities as well as the mining centres of Melville Bay (Gove) and Milner Bay (Groote Eylandt), and bulk carriers load ore and other mining products for delivery to ports in Australia and overseas.

Two Darwin-based companies operate landing craft to Aboriginal communities and ports along the coast.

Air services

At 1 November 1979, there were 101 licenced aerodromes plus four Commonwealth controlled airports in the Territory. Overseas passenger flights ceased following the destruction by Cyclone Tracy of the facilities for international passengers in the Darwin terminal building, but they have now resumed. The Merpati Nusantara service (Darwin to Kupang) resumed during 1975. Qantas have services to Hong Kong, London and Rome. Regular internal services to Darwin with, in some cases, intermediate stops at Territory centres are operated by Trans-Australia Airlines and Ansett Airlines (from Adelaide, Sydney, Melbourne and Brisbane), and MacRobertson-Miller Airways Ltd (from Perth). Connair Pty Ltd, based at Alice Springs, operate a network of air services throughout the Territory, and MacRobertson-Miller Airways Ltd operate from Darwin to Gove. Bush Pilot Airways operate a service from Cairns to Groote Eylandt and East-West Airlines connects Alice Springs to Sydney. The Northern Territory Aerial Medical Service has aircraft based at Darwin, Gove and Alice Springs, while the Royal Flying Doctor Service operates from Alice Springs. Charter services are available at a number of centres including Darwin, Alice Springs, Katherine, Tennant Creek, Gove and Groote Eylandt.

Post, telegraph, telephone, radio and television

Postal communication is maintained by daily air transport between major Northern Territory centres and the capital cities of Australia. Large centres receive surface mails by two major road mail services operating from Queensland and South Australia. More remote centres are served by aerial services. Direct mail despatches are exchanged between Darwin and several overseas countries.

Trunk telephone links to Darwin extend from Townsville via a broadband microwave radio relay system, and from Adelaide via carrier systems superimposed on the overland telegraph lines. These systems also carry telegraph and data traffic and serve towns along the routes. Subscriber trunk dialling facilities were introduced to Darwin, Nhulunbuy (Gove Peninsula) in 1974 and to Katherine in 1975. ISD (International Subscriber Dialling) was introduced to telephone exchanges in the Darwin area and to Katherine and Nhulunbuy in December 1976. Tennant Creek and Elliott telephone services were connected to automatic with subscriber trunk dialling facilities during 1979.

Completion of Australia's first solar-powered broad-band microwave relay system between Tennant Creek and Alice Springs in October 1979 brought subscriber trunk dialling and ISD facilities to Alice Springs. It also provides live television programs to the National Television Service transmitter at Alice Springs.

Smaller towns in the Northern Territory are progressively being converted to automatic telephone service with STD facilities in a program extending over several years. Larrimah and Daly Waters were the first of these in 1978 followed by Renner Springs, Newcastle Waters, Frewena and Banka Banka in 1979.

High frequency radio telephone exchanges at Katherine and Alice Springs provide connections to the telephone network for some of the remote properties in the Northern Territory. The majority of homesteads on pastoral leases are equipped with radio transceivers operating through the Royal Flying Doctor base at Alice Springs or the Telecom Australia Outpost Radio base in Darwin which provide a message passing and emergency communications service.

Regional national broadcasting stations are situated at Darwin, Alice Springs, Tennant Creek, Katherine and Gove and there are commercial broadcasting stations located at Darwin and Alice Springs. Two television stations, ABD Channel 6 of the national broadcasting system and NTD Channel 8, a commercial station, operate in Darwin. The Darwin ABD 6 national program is also broadcast in Katherine (ABKN 7) and Tennant Creek (ABTD 9) with a translator (ABTD 9–10) to give coverage of the mining residential area at Warrigo. A national television station, ABAD Channel 7, operates in Alice Springs.

Education

See also Chapter 12, Education.

Responsibility for education in the Northern Territory was transferred from the Commonwealth Department of Education to the Northern Territory Government on 1 July 1979.

Since that date education services have been provided by the Northern Territory Department of Education.

Details of the responsibilities are outlined in the *Northern Territory of Australia Education Act* 1979. Under the Act, the Minister for Education is responsible for the general administration and control of education services. The Act states that the Minister may take all measures which, in his opinion, are necessary or desirable to assist parents of children in the Territory in fulfilling their responsibility to educate their children according to the individual needs and abilities of those children; to make education services, provided by him, available to all people in the Territory; and to assist all people of the Territory with their own education. The Act also provides for the establishment of Advisory Councils.

Schools in the Northern Territory

In August 1979 there were 132 schools in the Northern Territory with a total school population of 28,385. Of that number 2,758 attended 7 private schools and 1,175 attended 6 mission schools. 9,779 students were of Aboriginal descent. In addition to primary and pre-schools, there are six government high schools and one private high school. There are four area schools offering secondary courses and three residential colleges for Aboriginal students.

There are also 15 government schools in Aboriginal communities that offer post-primary courses and five mission schools with post-primary programs.

Teaching staff are provided by the Commonwealth Teaching Service and qualified applicants are recruited from all parts of Australia.

With the exception of matriculation level, where students sit for examinations offered by the South Australian Public Examinations Board all aspects of curriculum, course accreditation and student assessment are the responsibility of the Northern Territory Curriculum Advisory Committees in Language Arts, Mathematics, Science, Social and Cultural Education, Physical and Health Education, The Arts, and Life/Work Skills. With the exception of Life/Work Skills, which is concerned with secondary education only, all committees span primary and secondary education from Transition to Year 12.

Subject area committees recommend the curricula to be followed in Northern Territory schools, determine the core of essential understandings and processes which students are expected to master in those curricula and assess the students' mastery of the core. Guidelines for all those functions are determined by the Curriculum Advisory Committee which also accredits non-matriculation courses offered to the senior school (post Year 10) students.

A Northern Territory school Leavers' Certificate may be issued to students who leave after having completed at least Year 10.

The work of curriculum committees including the development and implementation of curricula, is supported by educational advisers and a range of educational services.

Two Schools of the Air in the Northern Territory, one at Katherine and one at Alice Springs, have developed individual programs and provide correspondence and radio lessons for students in the years One to Seven. Aerial and road patrols are carried out regularly to provide teacher/student and parent contact.

Special schools are located in Alice Springs and Darwin for handicapped children. However, where appropriate, students with special needs are integrated into primary and secondary schools. Guidance and Special Education Advisory services operate from the two Regional Offices in Alice Springs and Darwin.

A program of exchange between Bali (Indonesia) and the Northern Territory is continuing in which two teachers from each country are exchanged for a school year, and four senior students spend up to six months in the other country. The Northern Territory also sponsors a group of junior high school students and teachers from Bali on a two-week educational visit to the Territory each year.

Aboriginal education

Most Northern Territory Aboriginals live away from town centres and their education is provided in various settings including mission schools, government schools on or near Missions or Aboriginal townships, on pastoral properties and outstations or homeland centres.

There has been an increasing number of requests from outstations for the Department of Education to provide assistance. A small group of teachers is currently working in this field and developing special methods and modified courses to help overcome the difficulties faced by isolated outstation groups in their quest for education.

Government schools for Aboriginal children in out-of-town centres provide tuition at pre-school and primary school level with a number of them providing post primary (secondary age) classes as well.

For Aboriginal children who wish to proceed to secondary schools there are three residential colleges: Yirara, Kormilda and Dhupuma.

These colleges are regionally based but situated near urban centres. They provide secondary age students from outlying centres with the opportunity to attend a range of courses internally or urban high schools.

Bilingual education programmes in Northern Territory schools in Aboriginal communities have attracted wide interest from within Australia and overseas.

There are 14 schools offering bilingual programmes and 3 schools preparing resources for programmes to be introduced in the future.

Many other schools include Aboriginal language and culture in the curriculum.

Twelve languages are now being used in the programme and research is continuing into another two.

Most school children are acquiring initial literacy skills in their own language.

Although a large proportion of the curriculum is devoted to instruction in an Aboriginal language, a structured English course forms an integral part of the bilingual programme. Other aspects of Aboriginal education are covered in the TAFE section.

Darwin Community College

The College was opened in 1974 and is an autonomous, multipurpose institution. It has Schools of Business and Management, General Studies (including Teacher Education), Creative and Applied Arts, Technology and Science, Trades and Linguistics. As well as courses at a number of levels leading to awards, the College provides a wide range of non-award, general interest classes. It provides tutorial assistance in a limited range of subjects to external students enrolled at the University of Queensland. The College has established annexes at Katherine, Nhulunbuy and Tennant Creek. The School of Australian Linguistics is presently located at Batchelor. By October 1978 the College had recorded 9,168 enrolments for the year in the various courses offered.

Apprenticeship training

Since March 1974, the formal training of apprentices in the Northern Territory has been coordinated through the Northern Territory Apprenticeship Board. Courses of study are conducted for declared trades at the Darwin Community College, Central Australian Community College and interstate technical colleges.

Technical and Further Education

Major activities centre round the following areas—

Aboriginal Adult Education Courses

These fall into three categories.

(i) On site courses run by resident adult educators. Most large Aboriginal communities have an adult educator who offers a variety of vocationally oriented courses to teach new or upgrade existing skills.

(ii) Residential TAFE courses are offered in some major centres where more extensive resources are available. For example, Dhupuma Residential College offers courses in building construction, small engine maintenance, 4-wheel drive maintenance, etc.

(iii) The Aboriginal Teacher Education Centre is a TAFE institution which offers studies leading to teacher qualifications.

Community College of Central Australia

This TAFE College was formerly an annexe of the Darwin Community College and was known as the Alice Springs Community College.

It is now a separate institution administered by the Department of Education.

It offers an expanding range of courses in apprentice training, specialised short courses of a vocational nature, recreational courses and general studies.

Katherine Rural Education College

This is a TAFE institution administered by the Department of Education. It offered its first course in 1979 and has developed short practical courses such as Horse' shoeing, Tyre care and maintenance, Station power supply, Helicopter mustering and Water Conservation. These are special courses which meet specific local employment needs.

In 1980 a 12-month full time course in Agriculture and Station Management will be offered as an alternative to Senior Secondary School Studies.

Finance

The following table gives details of Commonwealth Government receipts and outlays that have been identified as relating specifically to the performance of local or State-type functions in the Northern Territory. Receipts collected in the Northern Territory from Australia-wide sources (eg. income taxes, customs duties, etc) and outlays in the Northern Territory on items of a national character (eg. defence, civil aviation and cash benefits paid to Northern Territory residents as part of national programs) are *not* included.

In addition to transactions relating to the Northern Territory in the Consolidated Revenue Fund and certain trust funds the transactions of the following public corporations are included: Northern

Territory Port Authority, Northern Territory Housing Commission, Corporation of the City of Darwin and Corporation of the Municipality of Alice Springs. Outlay totals for 1977–78 include expenditure authorised by the Northern Territory Legislative Assembly.

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. As a consequence statistics for 1978–79 onwards will show the receipts and outlays of the Northern Territory Government and its subsidiary bodies as a distinct level of government separate from the Commonwealth.

NORTHERN TERRITORY: RECEIPTS AND OUTLAY

($'000)

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78p*
RECEIPTS					
Taxation—					
Payroll tax	2,800	5,300	6,550	7,300	7,630
Rates on land	1,519	2,068	2,529	3,405	3,376
Stamp duties	330	259	326	412	400
Motor registration	859	831	1,043	1,085	1,129
Other taxes, fees, fines, etc.	1,567	1,453	2,306	2,699	2,686
Interest, rent, etc.	2,058	1,791	1,920	3,202	3,855
Income from public enterprises	3,422	−6,878	−10,115	−7,267	−5,250
Net sale of local authority and public corporation securities	69	74	277	3,605	−1,609
Other receipts	643	−4,009	3,611	2,268	−3,569
Net charge to Commonwealth Government budget	155,676	284,183	404,783	390,279	370,226
Total Receipts	**168,943**	**285,072**	**413,231**	**406,989**	**378,874**
OUTLAY					
Final consumption expenditure—					
Law, order and public safety	7,411	12,540	14,307	15,168	18,547
Education	19,421	31,032	39,815	45,174	54,479
Health	19,850	27,736	32,691	38,499	45,231
Social security and welfare	11,463	20,228	20,314	20,953	24,784
Other	21,949	74,752	45,612	40,513	45,397
Gross fixed capital expenditure on new assets and stocks—					
Education	9,005	12,234	27,745	23,133	20,700
Roads	15,086	16,507	20,327	18,430	24,455
Housing and regional development	13,219	22,700	91,209	96,251	44,351
Health	8,991	14,566	28,856	39,395	30,487
Social security and welfare	220	500	473	529	315
Electricity, gas and water	9,192	11,692	16,503	18,355	24,690
Other	10,140	20,310	26,456	20,390	23,236
Net purchase of existing assets	3,733	9,041	1,812	720	−1,654
Interest paid	395	238	324	296	639
Cash benefits	64	1,754	2,997	326	182
Subsidies	657	237	106	455	1,286
Net advances to the private sector—					
Housing and community amenities(*a*)	8,250	−15,920	11,601	18,001	11,647
Other	2	1,652	712	875	1,564
Grants for private capital purposes	9,895	20,523	30,821	10,081	8,786
Advances to public financial enterprises	. .	2,750	550	−555	−248
Total Outlay	**168,943**	**285,072**	**413,231**	**406,989**	**378,874**

(*a*) In 1974–75, includes accelerated repayments from insurance companies in settlement of claims for cyclone damage.

THE AUSTRALIAN CAPITAL TERRITORY

General description

The Constitution provides that the Seat of Government of the Commonwealth of Australia shall be in the State of New South Wales but distant not less than 160 kilometres from Sydney. After a number of alternative sites were considered, an area of 2,395 square kilometres lying approximately 320 kilometres south-west of Sydney was transferred to the Commonwealth as from 1 January 1911. A further 73 square kilometres at Jervis Bay were transferred as from 4 September 1915 to serve as a port for the Territory.

The primary responsibility for administering the Australian Capital Territory lies with the Department of the Capital Territory, whose functions include housing, public transport and municipal services. Education, public health and justice are the responsibilities of the Departments of Education, Health and the Attorney-General. The National Capital Development Commission has the responsibility for the planning and development of the Canberra city area.

In 1974, the A.C.T. Advisory Council, which had been in existence since 1930, was replaced by the A.C.T. Legislative Assembly. The first Assembly was elected on 28 September 1974 and held its first meeting on 28 October 1974.

During 1979, the name of the A.C.T. Legislative Assembly was changed to the A.C.T. House of Assembly. The first election for the House of Assembly was held on 2 June 1979.

The first meeting of the House of Assembly was held on 29 June. The Assembly is constituted under the (*Legislative Assembly Ordinance*) Section 10 of which defines its role as follows:

'The Assembly may advise the Minister (for the Capital Territory) in relation to any matter affecting the Territory including the making of new Ordinances or the repeal or amendment of existing Ordinances.'

The Assembly consists of 18 Members (9 from each of the electoral divisions of Canberra and Fraser) and its procedure is modelled on that of the House of Representatives. Its Members serve on a part time basis.

The Assembly normally considers (and sometimes introduces) Ordinances which are proposed for the Territory. It also passes resolutions on matters affecting the Territory. It is represented on a number of boards, authorities and committees such as the Canberra Commercial Development Authority, the A.C.T. Electricity Authority, the A.C.T. Schools Authority and the Capital Territory Health Commission, the Liquor Licensing Board, the Consumer Affairs Council and the Australian Constitutional Convention.

At 30 June 1979, the population of the Australian Capital Territory was 221,600. *See also* Chapter 6, Demography.

National Capital Development Commission

The *National Capital Development Commission Act* 1957 provides for a Commission to undertake and carry out the planning, development and construction of the City of Canberra as the National Capital of the Commonwealth. The year 1978–79 was the twenty-second year of the Commission's operations. Construction work was carried out by means of agency operations with the Department of Housing and Construction and by private consultants. Expenditure in recent years is as follows: 1975–76, $188.5 million; 1976–77, $204.1 million; 1977–78, $197.1 million. Total expenditure in 1978–1979 was $157.1 million comprising: land development and services $8.5 million; water, sewerage and stormwater services and headworks $16.6 million; housing, flats and other accommodation $5.3 million; educational facilities $20.4 million; roads, public transport and traffic control $30.1 million; city works and associated facilities $7.2 million; Commonwealth Government offices $20.5 million; national works $23.2 million; health and welfare facilities $6.4 million; others $18.9 million.

Works and services

Housing

Until the period following the 1939–45 War, most houses and flats in the Australian Capital Territory were built and rented by the then Department of the Interior. More recently, an increasing number of houses and flats have been built by private enterprise and, as a result, the proportion of houses and flats in the Australian Capital Territory occupied by tenants of the Department of the Capital Territory (formerly the Department of the Interior) has fallen from 79.7 per cent of total occupied houses and flats in 1954 to 58.3 per cent in 1961, 38.8 per cent in 1966, 28.1 per cent in 1971 and 22.9 per cent in 1979. Although the bulk of rented accommodation is provided by public authorities (and this situation will continue in the foreseeable future), there has been a considerable increase in the proportion of home ownership in the Australian Capital Territory since 1954. The proportion of houses and flats owned or being purchased by instalments has risen from 19.5 per cent in 1954 to 29.0 per cent in 1961, 45.6 per cent in 1966 and 51.8 per cent in 1971 and approximately 58 per cent in 1978. Home building activity in the Woden Valley, Weston Creek and Tuggeranong south-west of the former city area and in Belconnen north-west of the former city area has continued to expand. At June 1979 there were 18,526 occupied dwellings in the Woden Valley and Weston Creek area, 20,615 occupied dwellings in the Belconnen area and 6,466 occupied dwellings in the Tuggeranong area. *See also* Chapter 19, Housing and Construction.

Municipal services

Since its establishment, Canberra has been developed as a garden city. City Parks Administration of the Department of the Capital Territory maintains all established urban parklands and sportsgrounds within the city area which amounted to approximately 6,634 ha in 1978-79, an increase of approximately 554 ha on the 1977-78 total.

The Yarralumla Nursery and the Canberra Botanic Gardens are also part of the City Parks Administration.

The Nursery, established in 1916, continues to propagate trees and shrubs for use in development projects, as replacements in the course of area maintenance and as free issue to new householders.

Introduction of new methods has increased productivity and improved quality of stock. During 1978-79 approximately 555,000 plants were propagated, maintaining a constant supply as in the year before.

The National Botanic Gardens located on Black Mountain represents the world's largest collection of Australian plants. More than 4,500 species of native plants are growing in the Gardens, which continue as an attraction for approximately 300,000 visitors each year. The high numbers of organised school visits have been maintained.

The water supply, sewerage and drainage systems in the Australian Capital Territory are operated by the Department of Housing and Construction on behalf of the Department of the Capital Territory.

At 30 June 1979, 64,318 meters were connected to the City Water Supply. The city draws water from 3 storages on the Cotter River with a total capacity of 91,000 megalitres, and a storage of 125,000 megalitres on the Queanbeyan River at Googong. Distribution is via 35 reservoir installations of which 4 are twin tanks. In 1978-79, 54,512 megalitres of water were consumed in Canberra for the year to 30 June 1979 and over the same period a further 3,615 megalitres were supplied to Queanbeyan, N.S.W.

Canberra's sewage is disposed of through the Lower Molonglo Water Quality Control Centre.

As at 30 June 1979, 23,151 kilometres of sewers, 14 kilometres of rising sewerage mains, 41,671 kilometres of stormwater drains and a total length of 28,267 kilometres of water line were laid.

Production

See also the chapter dealing with particular subjects.

Lands

Reference has been made in earlier issues of the Year Book to the general conditions of land tenure in the Australian Capital Territory and to the area of alienated and leased land. The chapter Rural Industry in Year Book No. 61 contains statistical information of these subjects.

With minor exceptions the freehold estate of land in the Australian Capital Territory has been acquired by, and is vested in the Crown. The *Seat of Government* (*Administration*) *Act* 1910 prevents the sale or disposal of such Crown land for any estate in freehold except in the case of a contract that preceded the Act. Progressively the remaining areas of freehold land are being acquired.

Leases of land for residential, commercial and other purposes in the city area are usually granted under the *City Area Leases Ordinance* 1936. Some special leases for other purposes (such as diplomatic sites or churches) are granted under the *Leases* (*Special Purposes*) *Ordinance* 1925 or the *Church Lands Leases Ordinance* 1924. Some areas outside the city area not immediately required for the development of the City or for other public purposes or where there is no intention of development are leased for agriculture or grazing under the *Leases Ordinance* 1918.

The Commonwealth Territory at Jervis Bay, comprising about 73 square kilometres, was acquired from New South Wales for the possible provision of port facilities in connection with the Australian Capital Territory. A portion of the area is occupied by the Royal Australian Naval College (H.M.A.S. *Creswell*) and a Royal Australian Navy airfield. Several blocks fronting Sussex Inlet plus an area on Bowen Island have been leased for guest houses and holiday camps, etc. under the

Leases Ordinance 1918, and an area of land in the Murray's Beach area has been set aside for possible use as an atomic power station under the control of the Australian Atomic Energy Commission. Apart from picnic and camping areas, experimental planting, afforestation and soil conservation activities, the remainder of the area is being maintained in its natural state.

Forestry

Forestry field operations in the Australian Capital Territory began in 1915 with the planting of pines on the denuded slopes of Mount Stromlo to arrest soil erosion and improve visual quality of the landscape. In 1926, a program for development of commercial forests was approved following a comprehensive review of the Territory's potential for forest development. Major reviews of this program were made in 1932, 1954 and 1967, always, however, retaining the basic policy of systematic conservation and development. All of the better native forest has been placed under management and forestry operations including fire protection treatment have been extended to some 44,500 hectares of natural forest in the Cotter catchment and adjacent areas. The more productive stands in these areas were harvested extensively to provide timber for Canberra's post-war expansion and were subsequently treated to promote regeneration and protect the quality of water harvested.

The policy of forest management in the Australian Capital Territory has been formulated to cater not only for commercial timber production but also to provide recreation facilities and an attractive visual environment for the national capital and to protect the water supply. These policies can be broadly summarised as follows:

(*a*) To manage and develop plantations and hardwood forest area in the Australian Capital Territory and Jervis Bay for production of timber and arrange sales of all forest produce;

(*b*) To initiate and maintain a variety of growth and environmental experiments to produce information for management decisions; and

(*c*) To develop and implement viable multiple use policies for forest areas with particular emphasis on recreation potential and facilities, quality of water harvest in catchments and conservation of the environment.

The forest authority is charged with the management of some 74,000 hectares of land in the Australian Capital Territory. Of this, some 48,000 hectares carry native forest or woodland. As at 31 March 1979, the total area of coniferous plantations in the Australian Capital Territory and Jervis Bay was 14,300 hectares nett. Of 217 hectares at Jervis Bay, the majority consisted of *Pinus radiata* (Monterey Pine) and *Pinus elliottii* (Slash Pine). (Fifty-two hectares at Jervis Bay were destroyed by fire.) The plantations in the Australian Capital Territory consisted mainly of *Pinus radiata* and *Pinus ponderosa* (Yellow Pine). Total area of *Pinus radiata* was 13,210 hectares.

In 1978–79 there was no commercial production of hardwood timber from the Australian Capital Territory and Jervis Bay. The volume of softwood cut was 183,000 cubic metres. The total value of this unprocessed timber unloaded at the mill (milldoor value) was $3.5 million.

Agricultural, pastoral and secondary industries

In the six years since 1973–74 the number of rural establishments in the Australian Capital Territory has fallen from 154 to 111. The more important items produced in 1978–79 were: wheat for grain 349 tonnes; wool 494 tonnes; whole milk 0.7 million litres; meat (carcass weight) 9,984 tonnes. Livestock numbers at 31 March 1979 included 14,236 cattle, 117,294 sheep and 235,612 poultry.

Secondary industries established in the Australian Capital Territory are largely the services industries associated with the growth of the Territory.

AUSTRALIAN CAPITAL TERRITORY MANUFACTURING ESTABLISHMENTS—1975-76 to 1977-78 (*a*)

		1975–76	*1976–77*	*1977–78*
Establishments operating during year	No.	106	101	90
Persons employed (*b*)	No.	3,534	3,448	2,892
Wages and salaries	$m	29.1	31.4	29.9
Turnover	$m	95.7	103.5	100.8
Opening stocks at 30 June	$m	9.3	10.7	9.8
Closing stocks at 30 June	$m	10.2	11.4	10.7
Purchases, transfers in and selected expenses	$m	43.9	47.2	47.3
Value added (*c*)	$m	52.7	57.1	54.4

(*a*) Classified to industry according to the 1978 Edition of the Australian Standard Industrial Classification (ASIC). The 1969 Preliminary edition of the ASIC was used in preceding years. (*b*) Average over whole year. Includes working proprietors. (*c*) Sales, transfers out and other operating revenue plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

Commercial practices

There is growing awareness of consumer rights as evidenced by the increasing number of enquiries received by the A.C.T. Consumer Affairs Bureau and the wide range of consumer oriented legislation.

The Bureau receives and investigates complaints from consumers, conducts research into matters affecting consumer interests and provides information of benefit to consumers.

Control over weights and measures standards has traditionally been, and remains, a prerequisite for fair commercial transactions. The Weights and Measures Office periodically examines the scales and measures used for trade.

In the A.C.T., licensing is used as a means of regulating some commercial practices by establishing minimum standards of qualifications and/or experience for entry into certain occupations. These include motor vehicle dealers, stock and station and real estate agents, and pawnbrokers and second-hand dealers.

The *Co-operative Societies Ordinance* 1939 provides for the incorporation of trading societies, building societies, housing and service societies and credit unions. The Registrar is responsible for the incorporation of new societies, the registration of documents, inspections and inquiries into the working and financial situation of societies and the hearing and determination of certain disputes between a society and a member.

In Canberra there are two retail fruit and vegetable markets. These have been established and are operated and controlled by the Canberra Retail Market Trust.

Transport and communication

Canberra is connected with the railway system of New South Wales at Queanbeyan by a line 8 kilometres long. This line was opened for goods traffic on 25 May 1914 and for passenger traffic on 15 October 1923. Direct or linking services operate between Canberra and Sydney, and Canberra and Melbourne. The two major domestic airlines provide many services daily each way on the Sydney-Canberra-Melbourne route, while four smaller carriers operate services to provincial centres. Regular motor coach services link Canberra with towns in New South Wales, Victoria and South Australia. The total length of roads in the Territory at 30 June 1977 was: inner-urban, 1,464 kilometres; outer urban, 281 kilometres; tourist development roads, 63 kilometres; total 1,808 kilometres. At 30 June 1979 there were also 67 kilometres of trunk cycle paths connecting suburbs with Canberra's major business centres. The Department of the Capital Territory is responsible for the regulation of transport and traffic under an A.C.T. Ordinance. ACTION, the Australian Capital Territory Internal Omnibus Network, is also operated by the Department of the Capital Territory. It operated 379 buses in 1978-79, over 74 routes covering 800 kilometres. A total of 13,500,000 kilometres was travelled and an estimated 16,000,000 passenger journeys made. There are six radio broadcasting stations in the Territory: 2CY, 2CN and ABC-FM of the national broadcasting system; two commercial stations, 2CA and 2CC; and one community station, 2XX. There are two television stations, ABC Channel 3 of the national broadcasting system and CTC Channel 7, a commercial station.

Social

See also Chapter 12, Education; Chapter 10, Health; and Chapter 11, Law and Order.

Schools

The Education Ordinance 1937 provides for the compulsory attendance at school of children between the ages of six and fifteen years. Government schools are administered by the A.C.T. Schools Authority, which became a Statutory body in January 1977. The Authority is representative of teachers, parents and the community. The A.C.T. Schools Accrediting Agency within the Authority system accredits courses and administers student assessment procedures for Years 11 and 12. These procedures replaced the New South Wales Higher School Certificate examination at the end of 1976.

In August 1979 there were seventeen government high schools in the Australian Capital Territory, and six secondary colleges. High schools cater for Years 7 to 10 and secondary colleges for Years 11 and 12. Secondary students enrolled numbered 14,484.

Sixty-five schools provide courses at primary levels, three of these being in rural districts and one in the Jervis Bay area. The number of pupils enrolled in primary grades of government schools at August 1979 was 24,865.

There were 2,667 teachers in A.C.T. government schools in August 1979.

Hartley Street Centre for physically handicapped children is located at Turner Primary School. It incorporates a pre-school section. Special units for deaf children are situated at Ainslie and Mawson Primary Schools and Telopea Park High School.

Blind children attend Turner Primary School and partially sighted children enrol in the school nearest their home. Learning centres for mildly intellectually handicapped children are provided at Ainslie, Curtin South, Macgregor, Rivett and Scullin Primary Schools. Lyneham High School, Weston Creek High School and the Woden School provide services for mildly intellectually handicapped secondary students. Three special schools (Malkara, Cranleigh, Koomari) incorporating pre-school sections serve the needs of moderately and severely intellectually handicapped children. Twelve primary schools cater for children of junior primary age who are unable to adjust to a normal class situation. One of these classes specialises in the care of children with language and communication disorders. Reading centres operate at Yarralumla and North Ainslie Primary Schools. Special English classes for migrant children are available at twenty-five primary schools, eight high schools and one secondary college. A number of children with physical, mild intellectual, and partial hearing handicaps are being integrated into neighbourhood schools. Educational guidance services are provided by the Education Clinic and through counselling staff attached to schools.

The Introductory English Centre is attached to Telopea Park High School. It is for secondary school migrant children arriving in the Territory with no English. They attend for about three months and then return to their own school.

The seventy-one pre-schools, including one in the Jervis Bay area and a mobile unit which visits outlying areas of the Australian Capital Territory, provide pre-school facilities for approximately 5,000 children between the ages of three and five years. Provision is made at all pre-schools for the additional enrolment of children who have minimal problems such as speech, behavioural and family problems.

In August 1979 there were twenty-nine non-government primary schools in Canberra and eleven secondary schools. At the same time, 9,033 pupils were enrolled in the primary grades of non-government schools and 6,549 pupils were enrolled in the secondary forms of non-government schools.

A.C.T. Further Education

The Office of A.C.T. Further Education which operates within the structure of the Department of Education is responsible for the Technical and Further Education Colleges.

There are presently two TAFE Colleges in the A.C.T., Canberra and Bruce. Woden TAFE College will begin teaching in 1980. The new building in the heart of the Woden complex will be opened in 1981. These Colleges provide trade, post trade, certificate, craft and leisure-type courses at their main campuses and at several annexes. In 1979 there were approximately 15,200 students enrolled.

The Canberra School of Art and the Canberra School of Music are also part of the A.C.T. Further Education system. The Canberra School of Art offers Diploma of Arts (Visual) three years full time study (or part-time equivalent), an Associate Diploma of Arts (Visual) with two years full time study (or part-time equivalent). It also provides art courses for students from the Canberra College of Advanced Education as well as non-vocational classes for the community in general. In 1979, there were 713 students.

The Canberra School of Music offers a four year full time Bachelor of Arts (Music). Courses for Canberra College of Advanced Education students and single study classes for part-time students are also offered. In 1979 there were 484 students enrolled.

Other Tertiary Educational Institutions

The Canberra College of Advanced Education is administered by a Governing Council constituted under an Act of Parliament and offers courses in six schools—Administrative Studies, Applied Science, Liberal Studies, Teacher Education, Information Sciences and Environmental Design. Courses have a professional or vocational orientation and lead to master and bachelor degrees, and associate and graduate diplomas. There were 5,258 students enrolled at 30 April 1979.

The Australian National University was established by an Act of Parliament and is administered by its governing Council. The Institute of Advanced Studies within the University is a centre for research and training in research. It includes the John Curtin School of Medical Research and Research Schools of Physical Sciences, Social Sciences, Pacific Studies, Chemistry, Biological Sciences and Earth Sciences. The faculties carry out both undergraduate and post-graduate training and research and are composed of the faculties of Arts, Asian Studies, Economics, Law and Science. The total student enrolment at 30 April 1979 was 6,013.

The University has established the following centres: Centre for Resource and Environmental Studies; Humanities Research Centre; North Australia Research Unit (based in Darwin); Survey Research Centre; Centre for Continuing Education; Computer Centre; Office for Research in Academic Methods; and the National Health and Medical Research Council Social Psychiatry Research Unit.

Continuing education

The Centre for Continuing Education, which is run by the Australian National University, is intended to foster 'the learning society' by enriching the contacts between the university and the community to their mutual advantage. The Centre offers a wide range of courses in the natural and social sciences and the humanities.

Evening classes are provided in some A.C.T. schools as a continuing education service of the A.C.T. Schools Authority. They provide courses leading to the award of a certificate for entry to post-secondary and tertiary institutions, and to the Public Service Qualifying Examinations. A variety of craft and cultural courses are also offered as evening classes.

Apprenticeship training

At 30 June 1979, 1,599 indentured apprentices were in training in the 54 declared apprenticeship trades in the Australian Capital Territory. Apprentices were employed by 760 approved employers. During 1978–79 there were 1,122 applications for apprenticeship. New indentures totalling 479 were registered, representing an increase of 2.3 per cent in new indentures on 1977–78 totals. In this period 412 apprenticeships were completed and 157 cancelled. Trade courses at the Canberra and Bruce Colleges of TAFE are supplemented, where required, by remedial classes in Mathematics and English.

Adult migrant education

The Office of A.C.T. Further Education, on behalf of the Department of Immigration and Ethnic Affairs, is responsible for the Adult Migrant Education Program in the A.C.T.

All English classes are free and are open to migrants who are permanent residents of Australia.

The language program is organised in two strands, for on-going and on-arrival courses. As part of the on-going program part-time classes are offered at different levels and at various times in the day and evening. A more intensive part-time course, aimed primarily at unemployed migrants whose lack of proficiency in the English language is prejudicing their employment prospects, is also available.

The program also offers full-time accelerated English which aim to improve oral English. All migrants attending full-time courses are entitled to living allowances.

As well, English classes are provided in the workplace either partly or wholly within working hours. Migrants who are unable to attend classes may undertake a correspondence course, or have a tutor visit them in their own homes.

The on-arrival strand of the program caters for migrants who have arrived in Australia within the previous six months. These full-time courses provide an introduction to Australian society and way of life as well as a basic English language instruction. On completion, students are encouraged to enrol in part-time classes.

Tourism

Tourism has quickly become a major factor in the A.C.T. economy and in the planning and development of the Capital. A large-scale, Government-commissioned study conducted in 1975–76 estimated 2.5 million visitors for the year, spending $72 million in the A.C.T. and Queanbeyan. Continuing surveys based on the study findings indicate 3.2 million visitors per annum to the area by 1986. Tourism, a labour-intensive industry, will grow in economic significance to the A.C.T.; for 1979, visitor spending was estimated at between $101 and $103 million.

The Parliamentary Joint Committee on the A.C.T. began an inquiry into tourism in mid-1979, which it hopes to conclude by year's end. Its report is expected to offer needed guidelines for the planning of A.C.T. tourism strategies, facilities and operations in the years ahead.

The official tourist servicing and promotional operation in the A.C.T. is provided by the Department of the Capital Territory through the A.C.T. Government Tourist Bureau. Planning and development of physical facilities remain the responsibility of the National Capital Development Commission.

The Bureau operates a highway reception and information centre on the northern (main) gateway to the city, and—since June 1979—a branch office in Sydney, joining the other State and Territory bureaux in Australia's largest tourist market. Total operational costs, including salaries and overtime, will amount to approximately $826,000 in 1979–80.

Most patronised tourist features in the A.C.T. are the Australian War Memorial, with more than 750,000 visitors a year, Parliament House, the National Library, the Royal Australian Mint, and the mountain lookouts and reserves. Major new attractions under construction are the National Gallery and High Court buildings and the Black Mountain Telecommunication Tower.

Finance

In the following table, identifiable receipts and outlay relating to the Australian Capital Territory have been classified in a National Accounts form. The table covers transactions of the Commonwealth Government in respect of the Australian Capital Territory in the Consolidated Revenue Fund and the following trust funds: Australian Capital Territory Forestry, Australian Capital Territory Housing, Australian Capital Territory Transport and Australian Capital Territory Suspense. In addition, details of the financial transactions of the following public corporations are also covered: Australian Capital Territory Electricity Authority, Commonwealth Brickworks, National Capital Development Commission, the Canberra Theatre Trust, the Canberra College of Advanced Education, A.C.T. Poker Machine Licensing Board, Canberra Commercial Development Authority, A.C.T. Totalisator Agency Board and the Capital Territory Health Commission including the Canberra and Woden Valley Hospitals. Not included are revenue derived by the Commonwealth Government from income taxes, sales tax, etc. levied in the Australian Capital Territory; outlay on items of a national character such as defence, civil aviation, railways, etc.; and payments to residents from the National Welfare Fund.

AUSTRALIAN CAPITAL TERRITORY: RECEIPTS AND OUTLAY

($'000)

	1972–73	*1973–74*	*1974–75*	*1975–76*	*1976–77*	*1977–78*
RECEIPTS						
Taxation—						
Rates on land	5,171	6,138	7,139	10,464	12,098	13,634
Liquor	459	589	710	984	1,260	1,325
Motor registration and licences	1,355	2,398	3,374	4,322	4,954	7,127
Payroll tax	3,153	4,149	9,038	10,761	11,296	11,945
Stamp duties	3,589	3,995	3,433	4,162	4,455	5,003
Other taxes, fees, fines, etc.	834	689	748	1,413	1,635	2,828
Interest, rent, etc.	11,920	13,744	13,514	16,920	21,899	31,144
Income from public enterprises	3,349	2,458	864	3,541	4,566	4,301
Net sale of public corporation securities	—38	—102	—214	3,605	(*a*) 27,903	(*a*) 15,492
Other receipts	1,018	2,035	1,985	473	(*a*)—9,092	18,158
Net charge to Commonwealth Government budget	97,320	166,356	261,657	313,283	316,291	329,215
Total receipts	**128,130**	**202,450**	**302,248**	**369,928**	**397,265**	**440,171**
OUTLAY						
Final Consumption expenditure—						
Law, order and public safety	6,084	7,390	10,420	10,156	13,808	16,109
Education	22,022	32,027	49,019	65,233	79,089	90,578
Health, social security and welfare	9,451	15,949	23,857	35,144	44,711	53,025
Other	30,205	29,040	43,068	48,767	49,727	47,046
Expenditure on new fixed assets and stocks—						
Education	10,038	15,386	22,111	34,139	31,186	26,357
Health, social security and welfare	8,343	4,937	11,006	11,322	7,406	8,322
Housing	—8,392	—4,344	7,811	7,749	—1,777	—5,266
Community and regional development	19,313	25,668	36,675	36,467	35,235	32,984
Protection of the environment	4,888	8,198	17,301	27,424	24,277	13,212
Recreation and related cultural services	1,770	3,630	4,851	7,088	10,371	12,414
Electricity, gas and water	3,415	5,718	5,647	12,170	28,817	25,495
Roads	7,776	9,432	10,264	11,607	11,937	30,819
Other	23,293	23,417	28,479	43,876	50,223	68,165
Net purchase of existing assets	—38,467	—4,935	—5,485	—21,084	—19,426	—13,604
Interest paid	634	582	664	665	1,072	3,576
Cash benefits	64	23	18	13	8	..
Subsidies	38	67	120	143	167	207
Net advances for housing	26,601	29,076	29,796	29,451	19,480	26,492
Grants for private capital purposes	1,054	1,188	6,626	9,599	10,954	9,240
Total outlay	**128,130**	**202,450**	**302,248**	**369,928**	**397,265**	**440,171**

(*a*) Includes financing transactions of the Canberra Commercial Development Authority.

NORFOLK ISLAND

General description

Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude 29°02′S, longitude 167°57′E approximately. Its total area is approximately 3,455 hectares, the island being about 8 kilometres long and 5 kilometres wide. It is 1,676 kilometres from Sydney and 1,063 kilometres from Auckland. The coastline, which is 32 kilometres long, consists of almost inaccessible cliffs rising from the waters edge, except at Kingston in the south and the landing place at Cascade on the northern side. The climate is equable, the average daily maximum temperature varying between 16°C and 28°C, and the average annual rainfall is 1,350 millimetres. The resident population is about 1,800.

The island served as a penal station from 1788 to 1813 and from 1825 to 1855. In 1856, 194 descendants of the *Bounty* mutineers were transferred there from Pitcairn Island.

Administration

In 1856, the Island was created a distinct and separate settlement under the jurisdiction of the Governor of New South Wales. In 1897 it was made a dependency under the Governor of that Colony, and finally, by the passage of the *Norfolk Island Act* 1913, became a Territory of Australia. It is controlled by the Minister for Home Affairs through an Administrator. The Norfolk Island Council was established pursuant to the *Norfolk Island Act* 1957 and is constituted in accordance with the provisions of the *Norfolk Island Council Ordinance* 1960. The Council may consider and tender advice to the Administrator on any matter affecting the peace, order and good government of Norfolk Island, and must be consulted on certain legislative and financial matters.

In May 1978 the Government announced that it should try to develop for Norfolk Island a form of Government involving the Island's own elected representatives under which the necessary revenue could be raised by its own system of law.

The *Norfolk Island Act* 1979, which was assented to on 30 May, established the framework for this objective. The passage of this Act followed a series of detailed discussions between the Minister for Home Affairs and the Norfolk Island Council, the Island's advisory body.

In broad terms, the Act equips Norfolk Island with responsible legislative and executive government to enable it to run its own affairs to the greatest practicable extent.

Wide powers will be exercised by the recently elected Norfolk Island Legislative Assembly and by an Executive Council, comprising the executive members of the Legislative Assembly who have ministerial-type responsibilities.

The Act preserves the Commonwealth's responsibility for Norfolk Island as a Territory under its authority, and indicates the Parliament's intention that consideration will be given to an extension of the powers of the Legislative Assembly and the political and administrative institutions of Norfolk Island within five years. A Government-commissioned study on the Norfolk Island economy, will be assessed and its findings discussed with Norfolk Island officials before decisions are taken on matters relating to the Island's revenue potential and an appropriate system of social welfare benefits.

The Government, after discussion with the Norfolk Island Council, decided that no immediate steps should be taken for Parliamentary representation for the Island.

The island's Supreme Court sits as required and a Court of Petty Sessions exercises both civil and criminal jurisdiction.

The Territory Administration is financed from an annual Commonwealth grant which in 1978–79 amounted to $144,000; and from local revenue which for 1978–79 totalled $2,139,950. A further $401,557 was provided by the Commonwealth during the year for the restoration and maintenance of historic structures.

Economic activity

The major economic activity of the island is tourism. Primary production is not fully adequate for local needs and foodstuffs are imported from New Zealand and Australia, mainly for the tourist trade.

Primary industries. The soil on the island is particularly fertile, the climate equable and the rainfall fairly evenly distributed except for a pronounced dry period in November. This enables a wide range of temperature and semi-tropical products to be cultivated. However, the island's comparative isolation presents trading difficulties, and there is only very limited production of export crops.

Fish abound off the island. In the past a number of ventures have been formed to exploit this resource, but they have been short-lived, mainly because of the lack of sheltered harbour. A modern whaling station was started on the island in 1955, and production commenced during the second half of 1956. Owing to a marked scarcity of whales after 1961, however, the station was closed down.

An active forestry program is being carried out to increase the resources of Norfolk Island pine and to introduce suitable types of eucalypts.

Tourists. Regular sea and air services to the island are available for those who seek a quiet holiday in surroundings of beauty and historic interest. At present, accommodation consists of flats and hotels as well as licensed and unlicensed guest houses. Further accommodation is being built to meet the steadily increasing number of visitors.

Employment. A large proportion of the population derives its income from various aspects of the tourist industry including the operation of hotels and duty-free stores. The Commonwealth Government provides service through staff from the Departments of Transport and Science (Bureau of Meteorology) and teachers are seconded by the N.S.W. State Education Department. A number of clerical and other positions are available to islanders in the Norfolk Island Administration. Very few people rely for their income entirely on agricultural pursuits.

Trade, transport and communication

Imports to Norfolk Island since the 1939–45 War has risen from $65,000 in 1945–46 to nearly $9 million in 1978–79. The major proportion ($4.2 million) in 1978–79 came from Australia and the Pacific Islands, while New Zealand supplied $1.3 million. Exports in 1978–79 amounted to $1.2 million. Exports to Australia and the Pacific Islands, the principal market, amounted to $0.5 million, while exports to New Zealand amounted to $0.3 million. No duties are chargeable on goods imported into Australia from Norfolk Island if (i) the goods are produced or manufactured in Norfolk Island and shipped direct to Australia, and (ii) not goods which, if manufactured or produced in Australia, would be subject to excise duty.

Two shipping companies operate services to Norfolk Island at approximately monthly intervals, linking the Island with Australia, New Zealand and other islands in the South Pacific area.

A passenger and air freight service between Sydney and Norfolk Island is operated by East-West Airlines Ltd. six times a week, and more frequently in peak periods. Air New Zealand Limited provides a service five times a week to the Island from Auckland. A light aircraft charter service operates between the island and Brisbane.

There are approximately 80 kilometres of motor roads on the island. A substantial section of the population possesses private motor cars. Hire cars, taxis and scooters are available.

The island has an automatic telephone service and radio telephone link with Sydney. A local broadcasting service is operated by the Administration.

Education

Education is free and compulsory between the ages of 6 and 15 years. The school, which is conducted for the Administration by the New South Wales Department of Education, conforms to the Australian standard of public education, ranging from Kindergarten to the School Certificate (Year 10) level. The number of students enrolled at 30 June 1979 was 305.

Some bursaries, subject to a means test, are available for pupils who wish to attend a mainland school either to continue their studies beyond the School Certificate level or to undertake high school courses not available on the Island. A limited number of trainee scholarships are available for pupils who have left school and wish to undertake apprenticeships or similar training away from the Island.

Judiciary

The judicial system of Norfolk Island consists of a Supreme Court and a Court of Petty Sessions. The Supreme Court is the highest judicial authority in the Territory and is a superior court of record with original criminal and civil jurisdiction. The jurisdiction of the court is exercised by one judge sitting in court or, to the extent that in the cases provided by or under ordinance, sitting in chambers. The jurisdiction of the Court of Petty Sessions is exercised by the Chief Magistrate or any three magistrates other than the Chief Magistrate.

Finance

Since Norfolk Island became a territory of the Commonwealth Government in 1913 its revenue has been supplemented by annual grants from the Commonwealth Government, internal revenue alone not being sufficient to meet the cost of public works and services. The principal items of revenue and expenditure in recent years were as follows:

NORFOLK ISLAND: REVENUE AND EXPENDITURE

($'000)

	1973–74	*1974–75*	*1975–76*	*1976–77*	*1977–78*	*1978–79*
REVENUE						
Government grant	120	126	126	126	126	144
Customs duty	319	410	387	403	472	566
Liquor profit	121	149	184	207	233	285
Company fees	145	198	178	208	237	187
Sale of stamps	175	348	297	425	550	613
Vehicle registration and licence fees	42	43	44	52	73	77
Government advance (repayable)	–	–	–	–	–	–
All other	115	134	166	258	330	412
Total revenue	**1,037**	**1,408**	**1,382**	**1,679**	**2,021**	**2,284**
EXPENDITURE						
Administration	233	240	472	645	704	786
Education services	165	146	209	245	291	322
Health and welfare services	85	98	176	164	250	275
Repairs and maintenance	149	211	200	227	251	302
Postal services	108	150	n.a.	n.a.	n.a.	n.a.
Capital works and services	63	128	429	170	124	252
Miscellaneous services	32	104	125	133	413	172
Total expenditure	**835**	**1,077**	**1,611**	**1,584**	**1,782**	**2,109**

HEARD ISLAND AND McDONALD ISLANDS

These islands, about 4,100 kilometres south-west of Fremantle, were transferred from the United Kingdom to Australia as from 26 December 1947. The laws of the Australian Capital Territory were declared to be in force in the Territory of Heard Island and McDonald Islands by the *Heard and McDonald Islands Act* 1953. In 1968, the responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

In December 1947, an Australian scientific station was established on Heard Island. Meteorological investigations were conducted until the station was closed in March 1955 following the establishment of Mawson station on the Antarctic mainland. Australian expeditions have since visited the island from time to time. Heard Island is about 43 kilometres long and 20 kilometres wide. The McDonald Islands are 43 kilometres to the west of Heard Island. They are small, rocky and precipitous. The first known landing on McDonald Island, the largest of the group of the same name, took place on 27 January 1971 when two members of the Australian National Antarctic Research Expeditions (ANARE) paid a short visit on their way to the Heard Island station.

AUSTRALIAN ANTARCTIC TERRITORY

An Imperial Order in Council of 7 February 1933 placed under Australian authority all the islands and territories other than Terre Adelie situated south of 60°S latitude and lying between 160°E longitude and 45°E longitude. The Order came into force with a Proclamation issued by the Governor-General on 24 August 1936 after the passage of the *Australian Antarctic Territory Acceptance Act* 1933. The boundaries of Terre Adelie were definitively fixed by a French Decree of 1 April 1938 as the islands and territories south of 60°S latitude lying between 136°E longitude and 142°E longitude. The *Australian Antarctic Territory Act* 1954 declared that the laws in force in the Australian Capital Territory are, so far as they are applicable and are not inconsistent with any ordinance made under the Act, in force in the Australian Antarctic Territory. In 1968 responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

On 13 February 1954 the Australian National Antarctic Research Expeditions (ANARE) established a station on MacRobertson Land at latitude 67° 36′S and longitude 62° 53′E. The station was named Mawson in honour of the late Sir Douglas Mawson and was the first permanent Australian station to be set up on the Antarctic continent. Meteorological and other scientific research is conducted at Mawson, which is a centre for coastal and inland survey expeditions.

A second Australian scientific research station was established on the coast of Princess Elizabeth Land on 13 January 1957 at latitude 68° 35′S and longitude 77° 58′E. The station was named in honour of the late Captain John King Davis, second-in-command of two of Mawson's expeditions and master of several famous Antarctic ships. The station was temporarily closed on 25 January 1965 and re-opened on 15 February 1969. On 4 February 1959 the Australian Government accepted from the United States Government custody of Wilkes station, which was established by the United States on 16 January 1957 on Vincennes Bay at latitude 66° 15′S and longitude 110° 32′E. The station was named in honour of Lieutenant Charles Wilkes who commanded the 1838-42 United States expedition to the area. The station was closed on 19 February 1969 when activities were transferred to Casey station built about 2 kilometres south of Wilkes. Casey station, which was opened on 19 February 1969, was named in honour of Baron Casey, former Governor-General of Australia, in recognition of this long association with Australia's Antarctic effort.

In 1957, as part of the International Geophysical Year (IGY), twelve nations co-operated in research programs covering a broad range of scientific pursuits. The outstanding co-operation between nations in the Antarctic during the IGY gave rise to discussions which resulted in the Antarctic Treaty. On 1 December 1959 the Antarctic Treaty was signed by the nations that had been active in Antarctica during the IGY, including all of those with territorial claims. The original signatories were Argentina, Australia, Belgium, U.K., Chile, France, Japan, New Zealand, Norway, South Africa, the U.S.S.R., and U.S.A. The Treaty entered into force for Australia on 23 June 1961. The Treaty, *inter alia*, reserves the Antarctic area south of 60°S latitude for peaceful purposes, provides for international co-operation in scientific investigations and research, and preserves for the duration of the Treaty the *status quo* with regard to territorial sovereignty, rights and claims.

The original signatories of the Treaty, the Consultative Parties, meet at about two yearly intervals at Antarctic Treaty Consultative Meetings. Only Consultative Parties may participate in the Consultative Meetings.

Nine Consultative Meetings have been held since the Treaty was signed, the first being held in Canberra in 1961.

The Treaty makes provision for other states to accede to it. Since 1959, seven nations have acceded: Brazil, Poland, German Democratic Republic, Czechoslovakia, Romania, Denmark and the Netherlands. The Treaty also makes provision in Article IX (2) for acceding nations to become Consultative Parties " . . . during such times as the Contracting Party demonstrates its interest in Antarctica by conducting substantial research activity there, such as the establishment of a scientific station, or the despatch of a scientific expedition". In July 1977, Poland was acknowledged by the Consultative Parties to have fulfilled the requirements established in Article IX (2) of the Antarctic Treaty and, as a consequence, to have the right to appoint representatives to participate in the Consultative Meetings. Poland subsequently attended the Ninth Antarctic Treaty Consultative Meeting.

COCOS (KEELING) ISLANDS

General description

The Cocos (Keeling) Islands, two separate atolls comprising some twenty-seven small coral islands with a total area of about 14 square kilometres, are situated in the Indian Ocean in latitude 12° 05′S and longitude 96° 53′E. They lie some 2,768 kilometres north-west of Perth and 3,685 kilometres almost due west of Darwin.

The main islands of the Territory are West Island, the largest, about 10 kilometres long, on which are the airport, the Administration and the community of mainland-recruited employees; Home Island, where the Cocos Malay community lives; Direction Island; South Island; and Horseburgh Island. North Keeling Island, which forms part of the Territory, lies about 24 kilometres to the north of the group and has no inhabitants.

The main atoll is low-lying, flat, and thickly covered by coconut palms, and surrounds a lagoon which has an anchorage in the northern part but which is extremely difficult for navigation.

The climate is equable and pleasant, usually being under the influence of the south-east trade winds for about nine months of the year. However, the winds vary at times, and meteorological reports from the Territory are particularly valuable for those engaged in forecasting for the eastern Indian Ocean. The temperature varies between 22°C and 32°C, and the average yearly rainfall is about 2,513mm. There are occasional violent storms. The estimated population at 30 June 1979 was 392.

History and administration

Summarised particulars of the discovery of the islands and their history up to 1946, when they became a dependency of the colony of Singapore, are given in Year Book No. 51, page 140, and in earlier issues. On 23 November 1955 the Cocos Islands ceased to form part of the Colony of Singapore and were placed under the authority of Australia. The transfer was effected by an Order in Council made by Her Majesty Queen Elizabeth the Second under the Imperial Act titled the *Cocos Islands Act* 1955 and by the *Cocos* (*Keeling*) *Islands Act* 1955 of the Commonwealth Parliament whereby the islands were declared to be accepted by Australia as a Territory to be known as the Territory of Cocos (Keeling) Islands.

Responsibility for the administration of the Territory rests with the Minister for Home Affairs. An Administrator was appointed to administer the Territory on behalf of Australia on 23 July 1975 under the *Cocos Administration Ordinance*. This Ordinance provides for an upgrading of the level of Government representation in the Territory. Until 23 July 1975 an official Representative appointed by the Minister under the then *Official Representative Ordinance* 1955 exercised such powers and functions in relation to the Territory as were delegated to him by the Minister under the *Cocos* (*Keeling*) *Islands Act* 1955 or were otherwise conferred on him under that Act or under any other law of the Territory. The laws of the Colony of Singapore which were in force in the islands immediately before the date of the transfer were, with certain exceptions, continued in force by the *Cocos* (*Keeling*) *Islands Act* 1955. They may be amended or repealed by Ordinances made under the provisions of that Act which empower the Governor-General to make Ordinances for the peace, order and good government of the Territory.

Policy goals for the Territory were announced by the Government on 16 June 1977. Important steps forward in the implementation of these goals have followed the Commonwealth's purchase from Mr John Clunies-Ross of the whole of his interests in the Cocos (Keeling) Islands with the exception of his residence and an associated dwelling. The purchase took effect on 1 September 1978.

On 30 January 1979, the Government leased the copra plantation and some other land purchased from Mr Clunies-Ross to the Cocos Islands Co-operative Society Limited. The Government now contracts with the Co-operative for the provision of certain services it requires. The contract payments are based on Australian prices and rates.

The economy of the Cocos Malay community is now largely in the community's own hands and the community is essentially self-sufficient.

On 17 May 1979, the *Local Government Ordinance* 1979 was enacted under which the Cocos (Keeling) Islands Council was established. The Ordinance gives the elected Council responsibility for a wide range of functions in the Home Island village area, which the Government has transferred to the Council upon trust for the benefit of the Cocos community. The Council also has the major responsibility for advising the Administrator on all other matters that may affect the Territory.

A separate Cocos Postal Service came into operation on 3 September 1979. Revenue from the Service is to be used for the benefit of the community at large.

Considerable improvements have also been made in other areas, particularly in education and health.

Transport and communication

There is an airport of international standard at West Island, controlled by the Administrator under licence from the Department of Transport. There is a regular Perth-Cocos (Keeling) Islands-Christmas Island-Perth charter service every 2 weeks. Under charter arrangements, a shipping service operates to the Territory at intervals of several months. A radio telephone service between West Island and Perth is maintained by the Administration. There are local postal and telephone services, and a non-commercial broadcasting station.

CHRISTMAS ISLAND

Christmas Island is an isolated peak situated in the Indian Ocean in latitude 10°25′S, longitude 105°40′E. It is approximately 360 kilometres south from Java Head at the south entrance to Sunda Strait, 1,300 kilometres from Singapore and 2,600 kilometres from Perth. Christmas Island covers an area of about 135 square kilometres. It consists of a central plateau about 150 to 250 metres above sea level with several prominent rises up to 360 metres high. The plateau descends to the sea in a series of steep slopes alternating with terraces. Sea cliffs over 200 metres high run along a considerable portion of the coastline except in a few places, the chief of which is Flying Fish Cove where the principal settlement is located and which is also the only anchorage.

The climate is pleasant, the prevailing winds coming from the south-east to east-south-east from May to December, and occasionally shifting round to between north and west from December to April (the wet season). The average yearly rainfall is about 2,673 mm with a marked summer incidence. The porous nature of the ground prevents the formation of pools of water, but there are several good springs which maintain an adequate supply of fresh water for the small population and the installations. The mean average temperature is about 27°C, and does not vary greatly throughout the year.

Economy

The economy of the Territory is based almost entirely on the mining and extraction of phosphate. During the year ended 30 June 1979, 1,249,500 tonnes of phosphate rock, 116,786 tonnes of phosphate dust and 18,230 tonnes of citraphos dust were produced. To minimise the impact on the environment of mining the British Phosphate Commission (BPC), which acts as managing agents for the Christmas Island Phosphate Commission, have adopted a program of land reclamation and maintain a plant nursery for reafforestation.

Population

Some 3,264 people (2,334 males and 930 females) were resident on the island at 30 June 1979. There is no indigenous population and many of the 2,808 Asian residents were either born in the Territory or have arrived over the past thirty years. Under the provisions of the Christmas Island Act, most are Australian citizens.

Education

From January 1975, the Government implemented in the Territory a series of new education arrangements which based the education system on an Australian curriculum. A summary of the previous arangements are given in Year Book No. 60, page 1088, and in earlier issues.

Under the new arrangements, the Christmas Island Area School provides pre-school, primary and secondary education. The Christmas Island Technical School conducts trades and commercial courses, and provides adult education classes and supervision of correspondence courses from the Western Australian Education Department's Technical Extension Service. At 30 June 1979, 568 children were enrolled at the Area School. At the end of 1978, the approved teaching staff establishments were 45 at the Area School and 7 at the Technical Education Centre.

History and administration

Summarised particulars of the history of Christmas Island up to its administration by the United Kingdom as a separate Crown Colony (from 1 January 1958, pending transfer to Australia) are given in Year Book No. 51, page 141, and in earlier issues. On 1 October 1958 the island was transferred to Australia by the *Christmas Island Act* 1958 and an Official Representative was appointed to administer the Territory. In 1968 an Administrator was appointed, replacing the Official Representative and upgrading the level of Government representation. Responsibility for the administration and government of the Territory rests with the Minister for Home Affairs and the Administrator manages day to day affairs in the Territory under delegation from the Minister. The laws which were in force on the island at 30 September 1958 were continued as the laws of the Territory after its transfer to Australia. They may be amended or repealed by Ordinances or by laws made under Ordinances of the Territory.

Transport and communication

Transport to and from the Island is maintained by vessels operated under charter by the British Phosphate Commissioners as managing agents for the Christmas Island Phosphate Commission.

An air charter arranged by the Department of Home Affairs provides a fortnightly service to and from the island out of Perth via the Cocos Islands. The BPC operate a fortnightly air charter between Singapore or Kuala Lumpur and the island, and ships which they own or charter run between the island and ports in Australia, New Zealand, Singapore and Malaysia.

The Territory has its own radio broadcasting station, police force, postal service and philatelic bureau. A radio-telephone and teleprinter service operates between the island and the mainland, and links with Singapore and ships at sea.

CORAL SEA ISLANDS

The Coral Sea Islands Territory comprises scattered reefs and islands, often little more than sandbanks, spread over a sea area of 1,035,995 square kilometres with only a few square kilometres of land area. The territory lies between the Great Barrier Reef and longitude 157°10′E and between latitude 12° and 24°S. Some of the better known islands in the territory are Cato Island, Chilcott Islet in the Coringa Group and the islands of the Willis Group.

The islands, or cays, are formed largely of coral and sand and some have a cover of grassy or scrub-type vegetation. Large populations of sea birds nest and breed in the area.

History

About one hundred years ago guano workers camped on a number of the islands collecting manure deposited by the sea birds. But isolation, a lack of permanent fresh water and the limited size of the cays discouraged subsequent permanent occupation.

The Australian Government based its claim to the Coral Sea Islands on numerous acts of sovereignty since early this century and asserted its sovereignty by enacting the *Coral Sea Islands Act* 1969 (which declared the Coral Sea Islands to be a Territory of Australia).

Installations

A lighthouse has been erected on Bougainville Reef and beacons operate on the Frederick and Lihou Reefs. A three-man meteorological station has provided a service on Willis Island since 1921 and there are eight automatic weather stations scattered throughout the Territory.

Most of the islands have been surveyed and the area is visited regularly both by Royal Australian Navy vessels and maintenance vessels of the Bureau of Meteorology.

Administration

By ordinance the laws of the Australian Capital Territory apply in the Coral Sea Islands Territory.

The Minister for Home Affairs is responsible for matters affecting the Territory.

STATISTICAL SUMMARY: AUSTRALIA

In earlier issues of the Year Book, it was the practice to include in the Statistical Summary figures for every tenth year of the period 1861 to 1901, plus the latest year for which data were available. In each subsequent issue, the latest year available was substituted for the year immediately preceding it until the next tenth year had been reached, and the earliest year in the series was eliminated as space was needed. In consequence of this system, no single issue of the Year Book contained a continuous yearly series.

In this and recent issues of the Year Book, this defect has been remedied in part by the inclusion of a continuous series back to the year 1949 where possible, with earlier tenth years back to 1901. In issue No. 39, pages xxviii–xxix, some of the series are shown for every tenth year from 1861 to 1941. There are, however, discrepancies between the original series and the series now published.

Breaks in series, preliminary figures, etc., are indicated by the symbols shown on page xi of this Year Book.

DEMOGRAPHY

Year ended 31 December—	Population(a)			Natural increase	Overseas migration(b)	Marriages		Divorces (c) and judicial separations	Births		Deaths		Infant deaths	
	Males	Females	Persons			No.	Rate(d)		No.	Rate(d)	No.	Rate(d)	No.	Rate(e)
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1901 . .	2,005	1,820	3,825	56.6	17.8	28	7.3	–	103	27.2	46	12.2	10.7	103.6
1911 . .	2,382	2,192	4,574	74.3	77.7	39	8.8	1	122	27.2	48	10.7	8.4	68.5
1921 . .	2,799	2,712	5,511	82.1	17.3	47	8.6	1	136	25.0	54	9.9	9.0	65.7
1931 . .	3,333	3,220	6,553	61.9	–10.8	39	6.0	2	119	18.2	57	8.7	5.0	42.1
				(f)	(g)						(h)	(h)		
1941 . .	3,599	3,545	7,144	63.3	5.2	75	10.6	3	135	18.9	71	10.0	5.3	39.7
				(f)	(g)						(h)	(h)		
1949 . .	4,047	3,998	8,046	106.0	150.0	73	9.2	7	181	22.9	75	9.5	4.6	25.3
1950 . .	4,191	4,116	8,307	112.4	152.5	76	9.2	7	191	23.3	78	9.6	4.7	24.5
1951 . .	4,311	4,217	8,528	111.5	111.4	77	9.2	7	193	23.0	82	9.7	4.9	25.2
1952 . .	4,426	4,314	8,740	120.1	94.0	74	8.6	7	202	23.4	82	9.5	4.8	23.8
1953 . .	4,503	4,399	8,903	122.0	42.9	71	8.0	8	202	22.9	80	9.1	4.7	23.3
1954 . .	4,598	4,492	9,090	120.5	68.2	71	7.9	7	202	22.5	82	9.1	4.5	22.5
1955 . .	4,714	4,598	9,312	125.6	97.3	72	7.8	7	208	22.6	82	8.9	4.6	22.0
1956 . .	4,829	4,702	9,531	126.0	94.0	72	7.6	6	212	22.5	86	9.1	4.6	21.7
1957 . .	4,930	4,814	9,744	135.4	78.7	74	7.6	6	220	22.9	85	8.8	4.7	21.4
1958 . .	5,026	4,921	9,947	138.8	65.4	74	7.5	7	223	22.6	84	8.5	4.6	20.5
1959 . .	5,132	5,029	10,161	137.8	76.8	74	7.4	7	227	22.6	89	8.9	4.9	21.5
1960 . .	5,253	5,139	10,392	141.9	90.1	75	7.3	7	230	22.4	88	8.6	4.6	20.2
	(i)	(i)	(i)	(i)										
1961 . .	5,374	5,268	10,643	151.8	61.5	77	7.3	7	240	22.8	89	8.5	4.7	19.5
1962 . .	5,740	5,376	10,846	144.4	62.5	79	7.4	7	237	22.2	93	8.7	4.8	20.4
1963 . .	5,572	5,484	11,055	141.3	71.6	81	7.4	8	236	21.6	95	8.7	4.6	19.5
1964 . .	5,683	5,597	11,280	129.1	99.3	86	7.7	8	229	20.6	101	9.0	4.4	19.1
1965 . .	5,794	5,712	11,505	123.7	104.9	94	8.2	9	223	19.6	100	8.8	4.1	18.5
						(i)	(i)		(i)	(i)	(i)	(i)	(i)	(i)
1966 . .	5,891	5,814	11,705	119.2	86.9	96	8.3	10	224	19.3	105	9.0	4.2	18.7
1967 . .	5,992	5,920	11,912	126.6	91.9	100	8.5	10	229	19.4	103	8.7	4.2	18.3
1968 . .	6,108	6,037	12,146	131.4	113.1	106	8.8	11	241	20.0	110	9.1	4.3	17.8
1969 . .	6,238	6,169	12,407	143.7	129.0	112	9.2	11	250	20.4	106	8.7	4.5	17.9
1970 . .	6,365	6,299	12,663	144.5	122.9	116	9.3	12	258	20.6	113	9.0	4.6	17.9
1971 . .	6,572.0	6,498.1	13,070.0	165.7	103.6	118	9.1	13	276	21.4	111	8.6	4.8	17.3
1972 . .	6,676.7	6,607.2	13,283.9	155.2	56.3	114	8.7	16	265	20.1	110	8.3	4.4	16.7
1973 . .	6,777.7	6,712.8	13,490.6	136.8	67.5	113	8.4	16	248	18.5	111	8.3	4.1	16.5
1974 . .	6,885.3	6,824.2	13,709.5	129.3	87.2	111	8.1	18	245	18.0	116	8.5	4.0	16.1
1975 . .	6,948.0	6,901.3	13,849.3	124.0	13.5	104	7.6	24	233	16.9	109	7.9	3.3	14.3
1976 . .	7,014.3	6,976.9	13,991.2	115.1	25.6	110	7.9	63	228	16.4	113	8.1	3.2	13.8
1977 . .	7,097.7	7,065.8	14,163.5	117.5	54.8	105	7.5	45	226	16.1	109	7.7	2.8	12.5
1978 . .	7,178.8	7,152.1	14,330.9	115.8	51.6	103	7.2	p41	224	15.7	108	7.6	2.7	12.2

Figures for 1971 and later years are based on Census results adjusted for underenumeration.

(*a*) At 31 December. (*b*) Excess of arrivals over departures. Minus sign(–) indicates excess of departures over arrivals. From 1 July 1971 net migration has been defined as the excess of overseas arrivals over overseas departures, classified as permanent and long-term (long-term includes visits to or absences from Australia lasting one year or longer). (*c*) Decrees made absolute, including decrees for nullity of marriage. (*d*) Number per 1,000 of mean population. (*e*) Number per 1,000 live births. (*f*) Excess of births over civilian deaths from September 1939 to June 1947. (*g*) Excludes movements of defence personnel from September 1939 to June 1947. (*h*) Excludes deaths of defence personnel from September 1939 to June 1947. (*i*) Includes Aborigines.

INDUSTRIES

AGRICULTURE

Season	Wheat for grain			Oats for grain			Barley for grain			Maize		
	Area	Production	Average yield	Area	Production	Average yield	Area	Production	Average yield	Area	Production	Average yield
	mil hectares	mil tonnes	tonnes	'000 hectares	mil tonnes	tonnes	'000 hectares	mil tonnes	tonnes	'000 hectares	mil tonnes	tonnes
1901–02	2.07	1.05	0.51	187	0.18	0.95	30	0.03	1.14	119	0.18	1.50
1911-12	3.01	1.95	0.65	250	0.17	0.70	47	0.05	0.99	138	0.23	1.65
1921-22	3.93	3.51	0.89	297	0.22	0.74	121	0.14	1.14	124	0.20	1.61
1931-32	5.97	5.18	0.87	439	0.28	0.63	139	0.14	1.03	109	0.18	1.65
1941–42	4.86	4.53	0.93	591	0.40	0.68	317	0.41	1.29	122	0.19	1.55
1949–50	4.95	5.93	1.20	707	0.50	0.70	421	0.44	1.05	78	0.15	1.94
1950–51	4.72	5.00	1.06	711	0.46	0.64	437	0.52	1.19	69	0.12	1.75
1951–52	4.20	4.34	1.03	957	0.63	0.65	452	0.50	1.10	69	0.10	1.49
1952–53	4.13	5.30	1.28	1,119	0.79	0.71	557	0.79	1.43	70	0.13	1.79
1953–54	4.35	5.38	1.24	865	0.60	0.69	730	0.94	1.28	72	0.13	1.78
1954–55	4.32	4.58	1.06	1,042	0.60	0.57	684	0.67	0.97	69	0.13	1.88
1955–56	4.11	5.31	1.29	1,357	1.02	0.76	766	0.94	1.23	68	0.12	1.78
1956–57	3.19	3.65	1.15	1,034	0.64	0.62	847	1.12	1.32	73	0.14	1.90
1957–58	3.58	2.65	0.74	1,197	0.57	0.48	858	0.69	0.81	74	0.14	1.92
1958–59	4.21	5.84	1.39	1,608	1.58	0.98	963	1.43	1.48	73	0.17	2.35
1959–60	4.93	5.39	1.09	1,226	0.85	0.69	963	0.78	0.81	75	0.17	2.28
1960–61	5.44	7.43	1.37	1,472	1.38	0.94	1,145	1.54	1.35	75	0.16	2.12
1961–62	5.96	6.71	1.13	1,253	1.00	0.80	965	0.94	0.98	85	0.19	2.18
1962–63	6.66	8.34	1.25	1,332	1.25	0.94	820	0.90	1.09	85	0.19	2.23
1963–64	6.67	8.91	1.34	1,373	1.24	0.90	815	0.98	1.21	87	0.17	1.96
1964–65	7.25	10.02	1.38	1,415	1.27	0.90	835	1.12	1.34	86	0.17	2.03
1965–66	7.09	7.05	1.00	1,525	1.10	0.72	930	0.95	1.02	80	0.12	1.57
1966–67	8.43	12.67	1.50	1,723	1.94	1.13	1,011	1.40	1.38	82	0.19	2.33
1967–68	9.08	7.55	0.83	1,368	0.72	0.53	1,057	0.83	0.79	81	0.18	2.23
1968–69	10.85	14.80	1.37	1,567	1.71	1.09	1,341	1.65	1.23	67	0.15	2.24
1969–70	9.49	10.55	1.11	1,374	1.25	0.91	1,521	1.70	1.12	80	0.19	2.41
1970–71	6.48	7.89	1.22	1,484	1.61	1.09	2,000	2.35	1.18	85	0.21	2.48
1971-72	7.14	8.61	1.21	1,237	1.28	1.03	2,532	3.66	1.21	78	0.21	2.74
1972–73	7.60	6.59	0.87	995	0.74	0.74	2,140	1.73	0.81	59	0.14	2.34
1973–74	8.95	11.99	1.34	1,182	1.11	0.94	1,894	2.40	1.27	46	0.11	2.32
1974–75	8.31	11.36	1.37	897	0.87	0.98	1,826	2.51	1.38	51	0.13	2.59
1975–76	8.56	11.98	1.40	988	1.14	1.16	2,329	3.18	1.37	47	0.13	2.81
1976–77	8.96	11.80	1.32	995	1.07	1.08	2,321	2.85	1.23	53	0.14	2.72
1977–78	9.95	9.37	0.94	1,076	0.99	0.92	2,803	2.38	0.85	45	0.13	2.87
1978–79	10.25	18.09	1.77	1,359	1.76	1.30	2,785	4.01	1.44	50	0.17	3.37

AGRICULTURE—*continued*

Season	Hay			Potatoes			Sugar-cane(a)			Vineyards		All crops
	Area	Production	Average yield	Area	Production	Average yield	Area	Production	Average yield	Area	Wine made	Area
	'000 hectares	'000 tonnes	tonnes	'000 hectares	'000 tonnes	tonnes	'000 hectares	'000 tonnes	tonnes	'000 hectares	mil. litres	mil. hectares
1901–02	683	2,057	3.01	44	328	7.4	35	1,390	39.5	26	24	3.4
1911–12	1,019	2,914	2.86	53	306	5.8	41	1,709	41.8	25	23	4.9
1921–22	1,212	3,965	3.27	60	394	6.5	52	2,476	47.7	37	39	6.2
1931–32	1,066	3,218	3.02	59	403	6.9	98	4,281	43.8	46	65	8.6
1941–42	1,116	3,632	3.25	40	338	8.4	103	5,236	50.8	53	71	(*b*)8.3
1949–50	650	2,469	3.80	54	479	8.8	114	6,959	61.1	55	149	(*b*)8.4
1950–51	557	2,096	3.76	51	418	8.1	110	7,165	65.1	55	118	(*b*)8.1
1951–52	627	2,382	3.80	48	517	10.8	114	5,412	47.5	55	160	(*b*)8.1
1952–53	713	2,809	3.94	55	438	8.0	113	7,079	62.5	55	136	(*b*)8.4
1953–54	783	3,098	3.96	52	557	10.7	138	9,159	66.5	56	144	(*b*)8.7
1954–55	803	2,902	3.61	43	476	10.9	151	10,248	67.7	55	109	9.0
1955–56	907	3,683	4.06	38	408	10.8	151	9,044	59.9	55	104	9.3
1956–57	753	3,092	4.10	41	527	12.9	150	9,421	62.9	53	140	8.1
1957–58	905	3,016	3.33	48	585	12.2	152	9,397	61.8	53	154	9.0
1958–59	1,221	5,171	4.23	42	584	13.8	150	10,377	69.4	53	148	10.4
1959–60	852	3,227	3.79	44	589	13.4	127	9,147	72.0	53	129	10.6
1960–61	1,203	5,160	4.29	37	458	12.3	138	9,313	67.5	53	153	12.0
1961–62	920	3,752	4.08	38	534	14.0	157	9,730	62.1	54	190	12.0
1962–63	1,101	4,793	4.35	46	677	14.7	163	12,940	79.6	54	136	13.0
1963–64	1,053	4,338	4.12	41	571	13.8	169	12,313	72.9	55	172	13.0
1964–65	1,130	5,043	4.46	36	516	14.5	190	15,312	80.4	56	177	14.0
1965–66	1,125	4,246	3.77	39	649	16.7	204	14,382	70.6	57	156	14.0
1966–67	1,415	6,473	4.58	40	653	16.3	226	16,953	75.1	56	190	16.0
1967–68	502	1,246	2.48	43	669	15.6	224	17,025	76.1	57	202	14.6
1968–69	428	1,728	4.04	46	811	17.7	230	18,708	81.3	58	236	16.7
1969–70	428	1,514	3.54	43	762	17.6	213	15,784	74.2	61	288	15.7
1970–71	348	1,298	3.73	39	774	20.1	221	17,645	80.0	64	250	13.4
1971–72	340	1,246	3.66	40	822	20.3	234	19,391	83.0	67	289	14.2
1972–73	453	1,224	2.70	37	721	19.7	242	18,928	78.3	69	266	14.3
1973–74	325	1,034	3.18	34	649	19.0	226	19,278	85.4	70	295	15.1
1974–75	216	669	3.10	38	742	19.7	253	20,418	80.7	71	361	13.8
1975–76	230	738	3.21	33	696	20.8	257	21,959	85.5	70	356	14.5
1976–77	287	891	3.10	34	728	21.5	288	23,344	81.0	71	383	15.0
1977–78	313	795	2.54	36	772	21.4	295	23,493	79.6	71	332	16.8
1978–79	293	955	3.26	35	795	22.9	252	21,457	85.2	71	345	17.4

(*a*) Cane cut for crushing. (*b*) Excludes Northern Territory.

INDUSTRIES—*continued*

PASTORAL, DAIRYING, ETC.

Year ended 30 June—	*Livestock(a)*			*Wool (b)(c)*	*Butter*	*Cheese*	*Meat(d)*			
	Cattle	*Sheep*	*Pigs*				*Beef and veal*	*Mutton and lamb*	*Pigmeat*	*Total meat*
	mil.	mil.	mil.	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes
1902	8.5	72	0.9	245	(*e*)46	(*e*)5.3	n.a.	n.a.	n.a.	n.a.
1912	11.8	97	1.1	362	(*e*)96	(*e*)7.2	n.a.	n.a.	n.a.	n.a.
1922	14.4	86	1.0	328	(*e*)121	(*e*)14.8	345	222	51	618
1932	12.3	111	1.2	457	177	14.3	355	312	72	739
1942	13.6	125	1.4	529	170	30.6	542	378	124	1,043
1950	14.6	113	1.1	518	176	45.5	616	364	92	1,072
1951	15.2	116	1.1	507	167	45.0	662	279	87	1,027
1952	14.9	118	1.0	490	137	41.3	591	287	86	964
1953	15.2	123	1.0	581	170	47.4	686	401	84	1,171
1954	15.6	127	1.2	565	162	49.8	716	371	85	1,171
1955	15.8	131	1.3	582	194	45.9	731	394	101	1,227
1956	16.5	139	1.2	643	212	39.3	763	386	95	1,245
1957	17.3	150	1.3	710	196	45.9	828	373	90	1,290
1958	16.9	149	1.4	650	179	36.6	804	428	103	1,336
1959	16.3	153	1.3	722	197	44.5	921	500	104	1,525
1960	16.5	155	1.4	762	201	45.7	764	583	102	1,449
1961	17.3	153	1.6	737	185	47.9	643	584	109	1,336
1962	18.0	158	1.7	770	202	56.6	804	596	122	1,522
1963	18.5	159	1.4	759	206	59.6	929	603	116	1,648
1964	19.1	165	1.5	810	207	59.2	1,001	595	113	1,710
1965	18.8	171	1.7	809	206	62.6	1,026	594	122	1,743
1966	17.9	158	1.7	754	209	59.6	946	608	135	1,690
1967	18.3	164	1.8	799	222	69.8	879	596	142	1,617
1968	19.2	167	2.1	803	196	70.5	904	665	150	1,718
1969	20.6	175	2.3	883	198	74.8	935	680	162	1,777
1970	22.2	180	2.4	926	223	76.3	1,010	755	174	1,940
1971	24.4	178	2.6	890	203	77.6	1,047	825	182	2,054
1972	27.4	163	3.2	882	195	80.9	1,168	956	194	2,319
1973	29.1	140	3.3	735	185	93.4	1,438	713	236	2,388
1974	30.8	145	2.5	701	175	95.8	1,322	467	211	2,000
1975	32.8	152	2.2	793	(*f*)161	(*f*)98.6	1,547	527	175	2,249
1976	33.4	149	2.2	754	148	112.6	1,840	588	174	2,602
1977	31.5	135	2.2	703	118	103.5	1,988	549	185	2,722
1978	29.3	131	2.2	677	112	115.6	2,184	514	199	2,897
1979	27.1	134	2.3	706	105	141.8	2,018	491	199	2,708

(*a*) At 31 December of previous year for years to 1942, at 31 March thereafter. (*b*) In terms of greasy. (*c*) 1901–02 and 1911–12 year ended previous December; then until 1946–47 year ended March; 1947–48 onwards, year ended June. (*d*) Carcass weight in terms of fresh meat. (*e*) Year ended previous December. (*f*) From 1974–75 excludes the production of certain small producers.

INDUSTRIES—*continued*

MINERALS									FORESTRY	
Year ended 31 December—	*Copper (a)*	*Gold (a)*	*Lead (a)*	*Zinc (a)*	*Iron ore*	*Black coal*	*Brown coal*	*Crude oil*	*Year ended 30 June—*	*Sawn output of Aust. grown timber*
	'000 tonnes	'000 grams	'000 tonnes	'000 tonnes	mil. tonnes	mil. tonnes	mil. tonnes	'000 cu m		'000 cu m
1901	29.9	102,642	n.a.	(*b*)	n.a.	7.0		..	1902	(*c*)1,067
1911	46.1	77,263	225.3	241.9	(*b*)	10.7		..	1912	(*c*)1,428
1921	11.2	23,577	82.3	141.7	0.7	13.1		..	1922	1,392
1931	13.9	18,510	150.8	75.4	(*b*)	10.8		..	1932	559
1941	22.7	46,553	295.7	251.2	2.5	19.1		..	1942	2,157
1950	17.9	27,046	229.0	201.0	2.4	24.3		..	1951	2,976
1951	18.4	27,855	215.4	192.3	2.5	25.9		..	1952	3,287
1952	19.2	30,495	232.0	199.6	2.9	27.9		..	1953	3,162
1953	38.1	33,442	273.7	243.2	3.3	27.1		..	1954	3,304
1954	42.6	34,766	289.4	256.7	3.6	29.6		..	1955	3,419
1955	48.1	32,629	300.7	260.7	3.6	29.9		..	1956	3,424
1956	55.4	32,031	304.3	282.5	4.0	30.3		..	1957	3,348
1957	60.2	33,714	339.1	324.0	3.9	31.2		..	1958	3,282
1958	76.9	34,338	333.6	298.4	4.0	32.6		..	1959	3,445
1959	96.5	33,751	321.4	279.8	4.2	33.9		..	1960	3,589
1960	111.2	33.800	313.1	322.6	4.4	38.1		..	1961	3,346
1961	97.2	33,476	274.0	316.2	5.4	40.9		..	1962	3,190
1962	108.7	33,245	376.0	342.9	4.9	42.3		..	1963	3,341
1963	114.8	31,849	416.9	357.1	5.6	44.0		..	1964	3,509
1964	105.7	29,979	380.9	350.1	5.8	47.2		198	1965	3,615
1965	91.8	27,298	367.9	354.8	6.8	52.9		417	1966	3,558
1966	111.3	28,521	370.8	375.3	11.1	56.0		539	1967	3,448
1967	91.8	25,049	381.8	407.0	17.3	59.0		1,208	1968	3,476
1968	109.6	24,316	388.8	422.4	26.6	64.2		2,206	1969	(*d*)3,325
1969(*e*)	125.3	22,711	417.7	463.2	32.5	43.3	(*f*)23.1	2,237	1970	(*d*)3,386
1970(*e*)	142.3	20,605	459.4	520.8	45.1	48.5	(*f*)23.9	4,871	1971	3,438
1971(*e*)	173.0	19,103	416.4	444.1	57.1	49.7	(*f*)22.8	14,937	1972	3,367
1972(*e*)	171.9	23,253	420.8	497.5	62.1	53.5	(*f*)23.3	19,038	1973	3,408
1973(*e*)	198.7	20,002	385.0	507.0	74.6	59.8	(*f*)24.1	20,669	1974	3,336
1974(*e*)	246.7	16,271	370.4	441.3	91.5	59.3	(*f*)26.3	23,096	1975	3,230
1975(*e*)	235.6	15,153	416.5	508.2	98.2	70.1	(*f*)27.3	23,096	1976	3,228
1976(*e*)	218.3	16,901	396.7	479.3	92.7	69.3	(*f*)29.2	23,839	1977	3,164
1977(*e*)	217.2	15,666	418.2	475.3	94.8	76.0	(*f*)31.0	24,549	1978	3,056
1978(*e*)	217.1	21,047	418.8	484.4	89.9	79.3	(*f*)30.5	24,941	1979p	3,180

(*a*) Metallic content of minerals produced. (*b*) Less than 0.05. (*c*) Year ended previous December. (*d*) Excludes estimated quantity of timber from logs peeled or sliced for veneers. (*e*) Year ended 30 June. (*f*) Includes brown coal used for briquette production.

INDUSTRIES—*continued*

FACTORIES (*a*)

Year ended 30 June—	*Number*	*Persons employed (b)*	*Salaries and wages paid(c)*	*Net value of production(d)*						
				Chemicals, etc.	*Industrial metals, etc.*	*Textiles, etc.*	*Clothing*	*Food, etc.*	*Paper, etc.*	*All groups*
	'000	'000	$m	$m	$m	$m	$m	$m	$m	$m
1902(*e*)	(*f*)	(*f*)	(*f*)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	58.2
1912(*e*)	14.5	312	55	2.2	24.1			23.6	8.5	108.3
1922	18.0	379	136	6.4	47.2			54.4	18.0	225.0
1932	21.7	337	112	15.8	45.6	13.8	22.2	57.4	19.2	222.0
1942	27.0	725	360	59.6	239.8	42.0	47.2	106.4	34.2	633.0
1950	41.6	917	772	81.3	492.5	85.9	115.4	202.0	86.0	1,323.1
1951	43.1	969	983	105.4	654.0	109.2	143.5	236.6	109.5	1,687.7
1952	45.8	978	1,224	127.4	826.2	113.2	162.2	282.2	136.4	2,049.7
1953	47.7	933	1,270	135.7	842.6	129.7	165.6	328.7	136.6	2,165.7
1954	49.6	990	1,410	164.6	936.6	157.1	187.1	355.8	158.6	2,454.1
1955	51.1	1,031	1,563	196.3	1,065.9	156.8	196.8	373.1	181.1	2,731.0
1956	52.4	1,060	1,707	238.3	1,193.9	163.6	204.9	395.6	198.1	3,001.4
1957	53.2	1,063	1,782	273.8	1,281.7	182.9	211.0	428.9	217.4	3,244.2
1958	54.0	1,074	1,859	291.3	1,389.0	183.0	216.1	449.9	241.4	3,457.4
1959	54.9	1,088	1,941	322.4	1,471.6	191.3	221.5	469.1	263.4	3,685.2
1960	56.7	1,132	2,173	360.3	1,700.4	216.7	237.7	520.1	298.2	4,161.1
1961	57.8	1,145	2,289	366.1	1,795.9	213.6	247.2	542.5	318.6	4,349.8
1962	58.5	1,121	2,287	364.3	1,770.3	211.2	252.4	495.5	326.9	4,394.6
1963	59.1	1,168	2,447	411.4	1,954.7	233.8	266.3	636.9	350.9	4,795.2
1964	59.4	1,210	2,652	449.5	2,174.0	252.5	281.4	700.5	379.7	5,270.0
1965	61.0	1,269	2,994	504.8	2,486.1	279.6	302.3	757.1	426.9	5,896.8
1966	61.7	1,294	3,163	542.7	2,647.8	282.8	319.0	818.3	459.5	6,251.9
1967	62.5	1,309	3,408	627.6	2,912.9	303.1	341.5	892.3	503.3	6,877.0
1968	63.0	1,331	3,666	687.0	3,163.6	315.0	360.1	937.5	549.0	7,430.9
1969(*g*)	35.9	1,264	3,908	633.0	3,201.6	301.0	409.2	1,184.4	620.7	7,475.5
1970	35.7	1,297	4,329	681.8	3,551.9	310.3	452.1	1,321.9	701.8	8,261.7
1972	36.1	1,303	5,257	804.1	4,052.0	333.7	521.5	1,683.9	818.1	9,703.2
1973	36.4	1,298	5,820	885.5	4,337.7	376.8	563.9	1,943.5	915.4	10,746.0
1974	37.1	1,338	7,177	1,076.2	5,529.4	481.1	676.1	2,126.0	1,110.5	13,149.2
1975(*h*)	27.0	1,245	8,531	1,172.2	6,635.8	409.2	696.8	2,650.5	1,279.4	15,246.4
1976(*h*)	27.5	1,200	9,472	1,261.7	7,084.9	542.3	841.7	3,074.1	1,391.4	16,921.0
1977(*h*)	26.7	1,176	10,536	1,464.6	8,088.5	563.2	894.2	3,501.8	1,614.2	19,234.3
1978(*h*)	26.1	1,145	11,138	1,697.4	8,218.0	581.4	967.7	3,767.4	1,763.0	20,236.3

(*a*) Excludes Northern Territory and Australian Capital Territory before 1 July 1964. (*b*) Average over whole year, includes working proprietors. (*c*) Excludes amounts drawn by working proprietors. (*d*) Value added in process of manufacture (i.e. value of output less value of materials and fuel used). (*e*) Year ended previous December. (*f*) Owing to variation in classification, effective comparison is not possible. (*g*) Direct comparison with figures for previous years are not possible (for details, *see* page 441). (*h*) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed.

GROSS VALUE OF PRODUCTION OF PRIMARY INDUSTRIES

Year ended 30 June—	*Crop production*	*Pastoral*	*Dairying*	*Poultry*	*Bee-farming*	*Total agriculture*	*Hunting*	*Forestry*	*Fishing*	*Total primary excluding mining*
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
1902	47.6	54.4	15.2	4.0	0.2	121.4	n.a.	(*a*)5.6	(*b*)	127.0
1912	77.6	105.4	32.2	8.0	0.2	223.4	n.a.	9.6	2.2	235.2
1922	163.8	150.2	70.6	18.0	0.2	402.8	n.a.	18.2	2.8	423.8
1932	149.0	123.1	66.1	17.1	0.2	355.5	3.2	15.4	3.3	377.4
1942	201.0	198.7	91.1	24.8	0.9	516.4	10.8	23.3	4.2	554.7
1950	563.5	744.3	202.2	67.0	1.7	1,578.6	12.8	50.7	9.8	1,651.9
1951	557.0	1,510.5	221.0	74.9	1.9	2,365.3	14.4	62.2	11.3	2,453.2
1952	664.3	899.6	260.6	97.0	1.7	1,923.3	14.8	82.7	13.3	2,034.1
1953	765.9	1,115.0	337.7	109.7	2.4	2,330.8	12.6	86.6	15.8	2,445.8
1954	743.9	1,115.3	347.1	109.9	3.2	2,319.4	11.5	94.7	17.7	2,443.3
1955	679.3	1,058.7	363.9	103.0	3.2	2,208.0	11.2	99.1	19.5	2,337.8
1956	769.9	1,036.2	395.7	107.6	3.9	2,313.2	13.4	110.0	19.6	2,456.2
1957	704.3	1,356.1	376.8	110.0	5.1	2,552.3	13.4	115.2	23.1	2,704.0
1958	681.7	1,089.8	370.7	110.9	3.8	2,256.9	13.7	114.1	22.8	2,407.5
1959	919.9	1,076.1	400.7	109.6	3.8	2,509.9	14.3	116.4	24.5	2,665.1
1960	820.7	1,275.2	425.4	119.7	5.1	2,646.1	15.4	108.1	27.2	2,796.8
1961	1,071.4	1,130.6	409.5	130.2	3.8	2,745.4	14.8	108.4	28.5	2,897.1
1962	1,008.3	1,187.3	412.5	121.7	4.0	2,733.9	13.3	100.1	31.7	2,879.0
1963	1,136.6	1,287.1	439.4	123.6	3.5	2,990.2	12.8	101.6	34.1	3,138.7
1964	1,228.4	1,562.7	463.5	138.2	6.0	3,398.9	15.0	108.0	35.4	3,557.3
1965	1,320.0	1,454.5	505.3	137.4	5.1	3,422.3	14.6	116.3	42.4	3,595.6
1966	1,181.3	1,467.8	508.0	154.6	4.3	3,316.0	15.6	120.3	45.8	3,497.7
1967	1,639.3	1,486.1	523.8	171.6	4.0	3,824.7	13.5	117.7	48.8	4,004.7
1968	1,268.8	1,395.2	504.1	169.3	4.6	3,342.1	12.1	118.8	58.5	3,531.5
1969	1,717.3	1,536.8	513.7	176.2	3.0	3,947.0	12.1	119.5	63.0	4,141.6

(*a*) Includes Fishing. (*b*) Included in Forestry.

INDUSTRIES, WAGES AND PRICES

The classification categories 'Pastoral', 'Dairying', 'Poultry' and 'Bee-farming' employed in the previous table have been replaced by a more appropriate commodity classification. Direct comparison with figures for previous years is not possible.

GROSS VALUE OF PRODUCTION OF PRIMARY INDUSTRIES

Year ended 30 June—	*Crops*	*Livestock slaughtering and other disposals(a)*	*Livestock products*	*Total Agriculture*	*Forestry*	*Fishing*	*Hunting*
	$m	$m	$m	$m	$m	$m	$m
1970	1,453.8	1,007.7	1,268.6	3,730.1	125.0	63.3	12.5
1971	1,490.8	1,009.9	1,079.0	3,579.7	137.2	77.2	10.2
1972	1,597.6	1,134.4	1,235.6	3,967.7	151.2	92.1	10.2
1973	1,582.4	1,542.2	1,832.5	4,957.1	170.6	100.7	12.1
1974	2,858.7	1,696.0	1,857.0	6,411.7	193.3	109.3	12.5
1975	3,203.8	1,019.2	1,652.8	5,875.8	212.6	107.7	13.8
1976	3,247.5	1,246.4	1,679.5	6,173.4	227.1	146.6	18.0
1977	3,185.2	1,685.7	1,884.8	6,755.8	251.7	206.2	23.5
1978	3,037.7	1,969.7	1,970.6	6,978.1	259.9	224.9	27.1
1979p	4,901.9	3,116.0	2,217.4	10,235.3	288.0	283.8	33.4

(*a*) Includes adjustment for net exports (overseas and interstate) of live animals.

GROSS VALUE OF PRODUCTION			BUILDING			WAGES AND PRICES		
			New dwellings completed(a)					
Year ended 30 June—	*Mining and quarrying*	*Manufacturing*	*Number*	*Value*	*Value of work done on all buildings(b)*	*Year ended 31 December—*	*Weekly wage rates index adult males(c)*	*Retail price index numbers six State capital cities combined(d)*
	$m	$m	'000	$m	$m			
1902	44.0	(*e*)58.2	n.a.	n.a.	n.a.	1901	n.a.	88
1912	46.6	(*e*)108.3	n.a.	n.a.	n.a.	1911	n.a.	100
1922	40.0	225.0	n.a.	n.a.	n.a.	1921	n.a.	(*h*)168
1932	27.0	220.0	n.a.	n.a.	n.a.	1931	n.a.	145
1942	66.8	633.0	n.a.	n.a.	n.a.	1941	38.5	167
1949	96.7	1,137.5	52.7	150.9	n.a.	1949	59.7	240
1950	104.7	1,323.1	57.0	184.7	n.a.	1950	71.5	262
1951	142.3	1,687.7	69.3	255.6	n.a.	1951	85.8	313
1952	194.4	2,049.7	80.1	354.1	n.a.	1952	96.7	367
1953	219.3	2,165.7	80.2	394.5	n.a.	1953	99.2	383
1954	209.8	2,454.1	77.6	398.2	n.a.	1954	101.6	386
1955	236.2	2,731.0	82.1	444.2	n.a.	1955	105.2	394
1956	265.0	3,001.4	78.5	452.5	n.a.	1956	110.8	419
1957	280.0	3,244.2	68.4	419.5	n.a.	1957	112.4	429
1958	253.6	3,457.4	74.6	463.0	811.6	1958	114.3	435
1959	236.7	3,685.2	84.2	527.3	864.9	1959	122.0	443
1960	252.3	4,161.1	90.0	571.0	1,001.6	1960	125.7	459
1961	278.1	4,349.8	94.5	627.4	1,130.8	1961	129.5	471
1962	274.5	4,394.6	86.3	593.2	1,076.9	1962	129.8	469
1963	291.0	4,795.2	87.7	610.2	1,140.7	1963	133.0	472
1964	327.7	5,270.0	96.7	685.8	1,323.9	1964	140.4	483
1965	400.1	5,896.8	112.7	823.0	1,555.9	1965	144.3	502
1966	443.9	6,251.9	112.8	869.9	1,681.2	1966	152.4	517
1967	515.5	6,877.0	111.9	914.8	1,745.4	1967	159.3	534
1968	568.1	7,430.9	120.2	1,022.8	1,914.3	1968	173.4	548
1969	(*f*)749.2	(*f*)7,468.5	130.7	1,182.1	2,195.4	1969	183.6	564
1970	(*f*)1,042.6	(*f*)8,277.8	142.2	1,379.4	2,556.7	1970	191.9	586
1971	(*f*)1,289.5	(*g*)n.a.	142.1	1,478.9	2,815.6	1971	218.0	621
1972	(*f*)1,428.3	(*f*)9,696.6	143.8	1,628.7	3,132.4	1972	239.8	658
1973	(*f*)1,597.3	(*f*)10,725.9	150.6	1,845.5	3,542.4	1973	275.1	720
1974	(*f*)1,996.1	(*f*)13,149.1	150.0	2,143.0	4,214.9	1974	373.8	829
1975	(*f*)2,669.1	(*f*)15,231.6	141.1	2,454.2	4,713.3	1975	417.6	954
1976	(*f*)3,049.7	(*f*)16,921.0	132.0	2,808.6	5,595.0	1976	479.0	1,083
1977	(*f*)3,548.2	(*f*)19,234.3	144.8	3,635.1	6,445.5	1977	527.9	1,216
1978	(*f*)3,905.0	(*f*)20,236.3	128.9	3,595.6	6,509.9	1978	571.1	1,313
1979	(*f*)4,449	n.y.a.	117.1	3,529.7	6,937.6	1979	595.7	1,432

(*a*) Series commenced 1945–46. Partly estimated before July 1951, and excludes Northern Territory before July 1954. (*b*) Building by private contractors, government authorities and owner builders. (*c*) At 31 December, Base; year 1954 = 100, weighted average. Excludes rural industry. (*d*) Base; year 1911 = 100. The index numbers are presented as a continuous series, but they give only a broad indication of long-term trends in retail price levels. They are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are; from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946–47, the 'C' Series Retail Price Index; from 1946–47 to 1948–49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series Index excluding Rent; and from 1948–49 onwards, the Consumer Price Index. (*e*) Year ended previous December. (*f*) Value added from 1968–69. (*g*) Manufacturing census was not conducted. (*h*) November.

OVERSEAS TRADE

	TOTALS		PRINCIPAL EXPORTS(*a*)					
Year ended 30 June—	*Imports*	*Exports*	*Coal(b)*	*Wool(c)*	*Barley*	*Wheat*	*Petroleum products*	*Flour(d)*
	$m	$m	$m	$m	$m	$m	$m	$m
1902(*i*)	76	100	n.a.	30	n.a.	6	n.a.	n.a.
1912(*i*)	122	158	2	52	–	13	–	3
1922	188	256	2	96	1	57	–	11
1932	104	216	1	74	3	38	–	8
1942	348	338	1	112	–	9	–	8
1950	1,076	1,227	–	618	13	124	–	53
1951	1,488	1,964	–	1,253	18	148	–	66
1952	2,107	1,350	1	636	22	111	–	66
1953	1,028	1,743	2	788	38	104	–	75
1954	1,363	1,657	3	805	30	62	1	60
1955	1,687	1,548	2	693	21	90	2	41
1956	1,642	1,564	2	653	21	93	6	39
1957	1,438	1,986	4	930	25	120	6	43
1958	1,584	1,636	7	720	19	57	11	29
1959	1,593	1,623	5	578	34	77	15	26
1960	1,854	1,875	9	742	23	123	21	30
1961	2,175	1,938	15	649	29	205	24	38
1962	1,769	2,155	27	720	30	285	25	35
1963	2,163	2,152	22	733	10	217	29	31
1964	2,373	2,782	32	926	18	362	20	42
1965	2,905	2,651	51	781	18	297	11	37
1966	2,939	2,721	63	757	12	264	9	25
1967	3,045	3,024	72	840	22	361	30	23
1968	3,264	3,045	85	739	7	343	33	24
1969	3,469	3,374	117	827	18	258	26	22
1970	3,881	4,137	164	803	23	338	27	21
1971	4,150	4,376	195	593	51	433	38	20
1972	4,008	4,893	238	633	73	419	45	13
1973	4,121	6,214	291	1,262	39	273	41	12
1974	6,085	6,914	348	1,248	68	517	95	20
1975	8,083	8,673	721	815	187	1,028	145	49
1976	8,240	9,601	1,063	1,032	201	922	144	39
1977	10,411	11,646	1,282	1,587	223	863	190	26
1978	11,167	12,270	1,482	1,289	122	1,011	223	21
1979	13,752	14,247	1,519	1,593	148	795	296	12

PRINCIPAL EXPORTS(*a*)—*continued*

Year ended 30 June—	*Butter(e)*	*Hides and skins*	*Meats(f)*	*Fruit(g)*	*Sugar*	*Lead and lead alloys unworked (h)*	*Ores and concentrates*	
							Iron	*Other*
	$m	$m	$m	$m	$m	$m	$m	$m
1902(*i*)	3	3	5	–	–	n.a.	–	–
1912(*i*)	9	6	9	1	–	3	–	8
1922	16	6	11	6	–	4	–	1
1932	21	5	13	10	5	5	–	–
1942	16	12	28	11	5	14	–	2
1950	51	30	70	30	28	34	–	12
1951	38	54	61	38	30	43	–	21
1952	10	34	71	44	14	52	–	40
1953	41	40	132	61	43	50	–	39
1954	33	39	114	68	63	46	–	26
1955	50	39	127	68	62	47	–	28
1956	59	42	119	67	49	49	–	38
1957	53	49	100	53	58	63	–	51
1958	32	51	111	72	70	43	–	42
1959	51	47	194	73	64	38	–	33
1960	58	64	177	64	53	33	–	44
1961	41	54	145	61	70	33	–	54
1962	49	64	179	74	68	38	–	48
1963	49	74	226	73	91	35	–	44
1964	57	92	244	92	157	50	–	54
1965	67	80	286	86	113	61	1	77
1966	58	89	228	107	94	67	3	88
1967	65	86	286	95	100	54	46	100
1968	47	62	285	105	98	63	103	123
1969	41	75	291	92	122	66	180	143
1970	53	88	426	88	116	106	278	205
1971	48	71	438	100	150	30	374	231
1972	49	80	569	89	211	68	376	226
1973	62	189	867	117	250	83	439	239
1974	42	148	801	105	223	121	499	309
1975	34	102	450	91	645	130	707	423
1976	64	142	679	96	570	111	771	528
1977	38	239	896	99	637	166	902	674
1978	44	244	1,128	115	537	194	921	701
1979	49	351	1,720	141	448	260	968	729

(*a*) Australian produce. (*b*) Anthracite, bituminous and sub-bituminous (except briquettes). (*c*) Includes greasy wool, slipe, wool scoured and carbonised, wool exported on skins. (*d*) Flour, plain white. (*e*) Includes concentrates and ghee. (*f*) Includes sausage casings, natural. (*g*) Includes juices and fruit preparations. (*h*) Includes silverlead. (*i*) Year ended previous December.

OVERSEAS TRADE—*continued*

PRINCIPAL IMPORTS

Year ended 30 June—	*Vegetable foodstuffs, etc.*	*Apparel, etc.*	*Oil, etc.*	*Metals, etc.*	*Rubber*	*Paper, etc.*
	$m	$m	$m	$m	$m	$m
1902(*a*)	7.2	21.8	2.4	15.6	1.0	3.2
1912(*a*)	7.4	32.4	3.2	28.0	2.8	5.2
1922	8.0	62.0	9.4	45.6	3.4	8.8
1932	5.2	30.8	11.0	14.8	1.6	8.8
1942	12.3	65.3	32.4	143.6	6.0	8.7
1950	41.4	199.5	104.8	454.7	21.4	37.8
1951	49.6	277.3	139.7	479.7	59.3	58.0
1952	50.1	407.1	174.9	768.8	68.0	137.5
1953	37.0	96.5	148.5	452.0	17.4	44.9
1954	51.4	227.6	167.0	504.4	23.7	68.2
1955	71.9	253.5	193.8	638.3	34.1	92.8
1956	44.1	222.7	199.3	644.1	44.1	87.2
1957	51.6	182.7	191.1	530.1	33.4	83.5
1958	51.5	217.0	203.4	564.4	33.3	89.8
1959	55.3	193.9	209.0	585.6	33.6	96.1
1960	54.9	222.1	213.5	710.1	48.5	103.8
1961	60.5	264.9	223.3	871.3	47.3	133.8
1962	56.3	208.4	219.8	630.3	35.5	109.6
1963	55.5	233.3	246.3	850.0	46.7	133.5
1964	61.6	234.0	251.5	947.1	51.2	141.7
1965	66.2	272.1	260.1	1,275.2	66.3	156.5

Year ended 30 June—	*Food and live animals*	*Beverages and tobacco*	*Crude materials, inedible, except fuels*	*Mineral fuels, lubricants and related materials*	*Animal and vegetable oils and fats*	*Chemicals*	*Manufactured goods classified chiefly by materials*	*Machinery and transport equipment*	*Miscellaneous manufactured articles*	*Commodities and transactions of merchandise trade not elsewhere classified*
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
1966	110	37	197	252	15	266	590	1,121	220	90
1967	118	38	206	247	15	297	586	1,144	243	110
1968	117	36	224	241	14	309	644	1,250	270	111
1969	128	44	228	252	13	328	688	1,328	298	116
1970	140	48	247	255	16	363	753	1,528	350	124
1971	158	50	235	190	18	410	867	1,644	403	125
1972	160	51	219	194	15	410	856	1,483	432	137
1973	163	52	268	175	13	424	893	1,489	475	119
1974	237	65	415	377	28	580	1,404	2,091	721	108
1975	302	75	390	724	43	786	1,496	3,059	961	125
1976	275	90	387	807	42	709	1,460	3,177	1,045	160
1977	455	99	471	996	54	926	1,891	3,980	1,354	105
1978	531	122	477	1,157	66	1,009	1,993	4,118	1,484	124
1979(*b*)	533	131	564	1,141	66	1,201	2,408	5,731	1,742	126

(*a*) Year ended previous December. (*b*) From 1 July 1978, imports have been classified according to the new A.I.C.C. which is based on the Standard International Trade Classification, Revision 2. The figures for 1979 are, therefore not comparable to those for previous years.

TRANSPORT AND COMMUNICATION

SHIPPING

Year ended 30 June—	Vessels on overseas voyages				Overseas cargo				Vessels on interstate voyages Entered		Interstate cargo loaded	
	Entered		Cleared		Discharged		Loaded					
	No.	Net tonnage	No.	Net tonnage					No.	Net tonnage		
		mil. tons		mil. tons	mil. tonnes	mil. cubic metres	mil. tonnes	mil. cubic metres		mil tons	mil. tonnes	mil. cubic metres
1902	(*a*)	(*a*)	(*a*)	(*a*)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1912(*b*) . . .	2,081	5.0	2,093	5.0	n.a.	n.a.	n.a.	n.a.	5,000	6.8	n.a.	n.a.
1922	1,567	4.6	1,544	4.5	(*c*)2.4		(*c*)5.8		4,897	6.4	(*c*)5.5	
1932	1,519	5.7	1,538	5.7	2.1	1.0	6.0	0.8	3,958	5.5	3.1	1.1
1942	1,276	5.2	1,268	5.6	3.8	2.0	2.9	1.5	4,860	6.6	8.2	2.2
1949	1,706	7.5	1,780	7.5	5.9	2.9	5.5	1.5	3,091	4.7	6.3	1.3
1950	1,942	8.7	1,965	8.7	7.8	4.1	5.1	1.6	3,228	5.3	6.5	1.7
1951	1,911	8.6	1,992	8.7	9.2	4.5	5.5	1.5	3,301	5.8	6.8	1.5
1952	2,038	9.0	2,098	9.3	9.9	5.3	4.6	1.4	3,750	7.9	7.8	1.5
1953	1,988	8.7	2,053	8.9	7.9	2.2	6.1	1.6	4,555	9.2	8.6	1.4
1954	2,054	8.9	2,073	8.9	8.7	3.2	5.9	1.5	4,759	9.6	9.3	1.7
1955	2,245	9.9	2,260	10.1	11.2	3.9	6.2	1.6	4,644	9.4	10.4	1.7
1956	2,425	11.2	2,457	11.1	12.6	3.9	6.8	1.8	4,626	9.5	11.8	1.5
1957	2,628	11.8	2,662	11.8	12.8	3.1	8.9	1.6	4,805	9.5	12.1	1.5
1958	2,656	12.4	2,598	12.1	13.9	3.3	7.5	1.7	5,127	9.8	12.8	1.3
1959	2,706	12.9	2,757	13.1	14.5	3.0	8.8	1.7	5,012	9.5	12.5	1.2
1960	2,976	14.5	2,969	14.4	15.7	3.7	10.3	1.7	5,004	9.5	13.1	1.5
1961	3,382	17.3	3,396	17.0	17.5	4.3	14.0	1.8	4,860	9.6	13.9	1.7
1962	3,599	18.9	3,611	18.8	17.8	3.1	17.5	1.8	5,032	9.8	13.9	1.3
1963	3,411	19.0	3,351	18.6	19.8	3.8	15.7	1.8	4,845	9.7	14.6	1.2
1964	3,714	20.7	3,763	20.9	21.1	4.5	20.1	2.1	5,067	10.1	15.9	1.4
1965	3,813	21.7	3,788	21.7	23.6	5.0	20.8	2.2	5,263	13.2	16.6	1.6
1966	3,929	23.0	4,029	23.3	24.5	4.7	22.1	2.3	5,480	15.1	16.4	1.7
1967	3,977	27.4	4,017	27.6	27.5	4.7	33.2	2.2	4,937	15.3	15.9	2.0
1968	3,972	30.1	4,013	30.3	28.0	5.3	42.0	2.4	5,159	15.7	17.5	2.1
1969	4,390	36.4	4,360	36.2	29.8	5.9	55.8	2.3	5,269	15.8	18.8	2.2
1970	4,971	44.5	5,053	44.6	28.7	5.8	78.1	2.4	4,834	17.7	20.8	2.3
1971	5,476	50.8	5,578	51.4	21.8	5.7	101.8	3.0	4,967	23.7	24.9	2.5
1972	5,439	53.1	5,447	53.5	19.5	5.9	108.0	3.2	5,491	27.0	26.4	2.8
1973	5,647	62.6	5,631	62.0	20.2	6.1	132.4	3.5	5,215	28.8	28.0	2.9
1974	5,975	72.0	5,909	71.5	23.1	7.6	150.5	3.1	5,073	28.4	29.5	3.0
1975	6,230	80.3	5,254	80.3	21.9	8.0	164.9	2.9	4,594	25.9	28.5	3.1
1976	5,772	75.0	5,824	75.4	19.7	7.2	156.1	2.5	4,015	22.8	28.2	2.9
1977	5,830	79.7	5,823	79.5	20.6	7.8	164.9	2.2	3,906	22.1	28.5	2.0

(*a*) Separate details not available. Total entrances and clearances for year ended December 1901, 4,028 vessels, 6.5 million tons. (*b*) Year ended previous December. (*c*) Tons weight plus tons measurement.

TRANSPORT AND COMMUNICATION—*continued*

	GOVERNMENT RAILWAYS (*a*)					REGULAR INTERNAL AIR SERVICES						
							Passengers		*Freight*		*Mail*	
Year ended 30 June—	*Route kilometres (b)*	*Train kilometres*	*Passenger journeys*	*Freight-tonnes carried*	*Freight net tonne-kilometres*	*Kilometres flown*	*Embarkations*	*Passenger kilometres*	*Tonnes uplifted*	*Tonne-kilometres*	*Tonnes uplifted*	*Tonne-kilometres*
	'000	mil.	mil.	mil.	mil.	mil.	'000	mil.	'000	mil.	'000	mil.
1902 . . .	20.6	61.5	115	15.7	n.a.	. .	. .	. .	. .	. .	. .	. .
1912 . . .	27.0	88.8	228	25.9	n.a.	. .	. .	. .	. .	. .	. .	. .
1922 . . .	37.7	90.3	335	32.0	n.a.	. .	. .	. .	. .	. .	. .	. .
1932 . . .	43.5	102.7	303	26.5	n.a.	1.4	6	5	–	n.a.	–	n.a.
1942 . . .	43.8	142.4	475	39.5	n.a.	12.6	151	122	1.2	1.5	n.a.	0.7
1949 . . .	43.5	148.5	507	42.1	10,158	56.6	1,409	911	33.9	25.0	1.6	1.3
1950 . . .	43.5	150.3	505	41.3	10,143	58.7	1,500	950	44.8	32.6	2.6	2.0
1951 . . .	43.5	142.7	476	41.6	10,264	65.5	1,685	1,077	53.9	39.6	2.9	2.2
1952 . . .	43.1	150.3	501	45.0	11,046	67.3	1,829	1,162	52.2	39.0	2.4	1.9
1953 . . .	43.1	142.7	498	44.7	10,750	62.9	1,706	1,073	52.3	39.7	2.1	1.8
1954 . . .	42.8	150.5	511	47.6	11,370	66.0	1,772	1,130	63.0	47.7	2.1	1.8
1955 . . .	42.8	152.6	517	48.5	11,929	70.0	1,918	1,233	71.4	54.0	2.1	1.9
1956 . . .	42.6	154.8	515	47.6	11,894	70.3	2,020	1,333	76.6	56.8	2.3	2.0
1957 . . .	42.6	153.0	499	48.3	12,203	67.8	2,125	1,434	68.1	53.0	2.3	2.0
1958 . . .	42.5	145.3	494	46.0	11,132	65.2	2,123	1,447	63.5	48.2	2.4	2.0
1959 . . .	42.3	146.9	485	48.8	11,970	64.9	2,235	1,519	57.0	42.0	2.4	2.2
1960 . . .	42.2	140.2	479	52.0	13,091	69.5	2,660	1,823	59.3	42.6	4.4	3.8
1961 . . .	42.0	149.7	463	56.3	14,370	68.1	2,639	1,786	57.2	41.2	5.4	4.5
1962 . . .	41.2	149.0	461	56.5	14,427	66.3	2,666	1,802	51.9	38.1	5.7	4.7
1963 . . .	41.0	149.6	465	56.8	15,131	70.3	2,833	1,965	53.9	41.3	5.9	4.9
1964 . . .	40.5	155.3	471	62.7	17,170	78.8	3,257	2,266	57.3	44.5	6.4	5.5
1965 . . .	40.3	155.5	464	65.9	18,224	84.2	3,764	2,638	63.5	49.5	7.0	5.9
1966 . . .	40.2	151.7	460	65.5	18,050	88.5	4,158	2,947	69.0	54.9	7.8	6.7
1967 . . .	40.3	150.8	455	69.6	18,832	91.3	4,425	3,174	74.4	58.6	8.7	7.5
1968 . . .	40.5	152.1	453	72.2	20,054	91.3	4,668	3,420	77.2	61.8	8.5	7.6
1969 . . .	40.4	151.0	447	77.0	21,463	97.1	5,185	3,865	81.6	66.5	9.0	8.0
1970 . . .	40.3	156.3	450	83.7	23,973	106.6	5,911	4,511	90.8	74.5	9.6	8.7
1971 . . .	40.3	156.3	453	87.3	25,206	114.6	6,340	4,974	91.4	78.0	9.9	9.3
1972 . . .	40.3	153.7	404	88.7	25,403	113.0	6,629	5,134	89.9	74.2	10.1	9.3
1973 . . .	40.5	152.0	372	92.5	26,582	118.6	7,503	5,685	94.4	81.5	10.1	9.8
1974 . . .	40.4	151.2	373	97.0	28,329	131.8	8,858	6,812	112.7	98.3	9.9	9.3
1975 . . .	40.6	150.6	361	103.5	29,792	135.5	9,393	7,374	107.8	97.9	9.6	9.0
1976 . . .	40.8	150.1	338	104.4	30,809	130.1	9,315	7,281	106.1	97.5	9.7	9.1
1977 . . .	40.1	151.1	332	109.9	31,995	122.9	9,349	7,330	108.1	96.3	9.6	9.1
1978 . . .	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	134.7	10,289	8,181	120.9	106.5	11.3	10.7

(*a*) Particulars of train-kilometres, passenger journeys, freight tonnes carried, and freight net tonne-kilometres refer only to operations for which revenue is received.

(*b*) At end of period.

TRANSPORT AND COMMUNICATION—*continued*

ROAD TRANSPORT COMMUNICATION

Year ended 30 June—	*Tram trolley-bus and bus services(a)*	*Motor vehicles on the register(b)(l)*				*Postal matter dealt with(d)*	*Telephones*		*Telegrams (f)*	*Broadcasting and television licences in force(b)*	
	Passenger journeys	*Motor cars and station wagons*	*Commercial vehicles (c)*	*Motor cycles*	*Total motor vehicles (including motor cycles)*		*Instruments in service (b)*	*Services in operation (b)(e)*		*Broadcast listeners'*	*Television viewers'*
	mil.	'000	'000	'000	'000	mil. articles	'000	'000	mil.	'000	'000
1902	n.a.	..	..	..	..	(*g*)384	(*g*)36	(*g*)28	(*g*)8.2	..	..
1912	360	n.a.	n.a.	n.a.	n.a.	(*g*)698	(*g*)118	(*g*)96	(*g*)13.9	..	..
1922	569		102		102	778	259	196	16.8	(*h*)1	..
1932	589	420	96	72	588	887	485	364	13.9	369	..
1942	(*i*)1,067	451	250	49	751	1,124	739	531	26.1	1,320	..
1949	1,185	651	457	118	1,225	1,375	1,028	734	37.9	1,763	..
1950	1,076	764	506	134	1,404	1,466	1,110	795	38.0	1,841	..
1951	1,092	879	555	146	1,580	1,526	1,209	870	37.2	1,885	..
1952	1,019	1,028	588	155	1,770	1,482	1,301	939	29.8	1,961	..
1953	988	1,105	587	148	1,840	1,506	1,383	1,001	25.9	1,986	..
1954	981	1,196	611	141	1,947	1,604	1,476	1,070	25.1	2,042	..
1955	966	1,342	654	133	2,130	1,653	1,587	1,153	25.5	2,035	..
1956	927	1,430	693	123	2,246	1,741	1,704	1,240	25.4	2,089	..
1957	833	1,537	710	118	2,366	1,784	1,814	1,318	24.0	2,107	74
1958	803	1,661	731	114	2,506	1,895	1,937	1,407	22.9	2,138	291
1959	778	1,784	755	110	2,649	1,951	2,056	1,491	22.5	2,264	578
1960	758	1,938	784	102	2,824	1,953	2,164	1,562	22.2	2,283	955
1961	726	2,070	800	93	2,963	2,048	2,266	1,631	21.8	2,256	1,217
1962	718	2,201	815	85	3,101	2,101	2,382	1,719	21.6	2,220	1,424
1963	712	2,377	832	77	3,286	2,202	2,523	1,812	21.8	2,240	1,655
1964	702	2,583	846	69	3,498	2,342	2,670	1,919	23.4	2,302	1,882
1965	685	2,792	858	65	3,715	2,443	2,811	2,010	24.3	2,358	2,045
1966	653	2,947	868	64	3,878	2,556	2,978	2,120	25.0	2,526	2,226
1967	621	3,104	880	69	4,053	2,683	3,178	2,235	25.6	2,538	2,405
1968	609	3,305	892	83	4,279	2,648	3,392	2,359	(*j*)23.4	2,580	2,519
1969	590	3,499	911	98	4,508	2,648	3,599	2,511	(*j*)23.3	2,630	2,649
1970	575	3,720	938	114	4,772	2,664	3,913	2,704	(*j*)23.2	2,670	2,758
1971	561	3,935	961	144	5,039	2,685	4,152	2,857	(*j*)21.2	2,699	2,845
1972	503	4,141	996	180	5,317	2,649	4,400	2,978	(*j*)20.2	2,758	2,939
1973	516	4,362	1,041	210	5,613	2,691	4,659	3,147	(*j*)20.4	2,814	3,013
1974	528	4,604	1,090	259	5,953	2,656	5,000	3,361	(*j*)20.7	(*k*)2,851	(*k*)3,022
1975	r526	4,858	1,140	278	6,277	2,516	5,267	3,539	(*j*)18.5	..	..
1976	r510	5,073	1,215	293	6,581	2,209	5,502	3,700	(*j*)12.9	..	..
1977	r508	5,243	1,280	296	6,818	2,198	5,835	3,907	(*j*)10.4	..	..
1978	517	5,462	1,360	292	7,114	2,304	6,181	4,166	9.0	..	..
1979	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	2,513	6,677	4,449	7.1	..	..

(*a*) Government and municipal trolley-bus services ceased in August 1969. (*b*) At end of period. (*c*) Open and closed light commercial type vehicles, rigid and articulated trucks, other truck type vehicles and buses. (*d*) Letters, postcards, letter-cards, newspapers, packets, parcels, and registered articles. (*e*) All single lines plus one half the number of duplex lines. Until the introduction of duplex services in December 1948, statistics of exchange lines and telephone services were identical. (*f*) Telegrams despatched to places within Australia and despatched to or received from overseas. (*g*) Year ended previous December. (*h*) Year 1923–24. First year licences issued. (*i*) Tram passenger journeys only before 1942. (*j*) Excludes telegrams received from overseas. These particulars are no longer available. (*k*) Television viewer and broadcast listener's licences were abolished on 17 September 1974. (*l*) Estimates of the number of vehicles on the register from June 1972 to June 1976 were revised following the results of the September 1976 Census of Motor Vehicles.

NATIONAL ACCOUNTS

GROSS DOMESTIC PRODUCT

Year—	At current prices			At constant prices(*a*)			
	(*b*)	(*c*)	(*d*)	*1953–54 prices* (*d*)	*1959–60 prices* (*d*)	*1966–67 prices* (*d*)	*1974–75 prices* (*d*)
	$m	$m	$m	$m	$m	$m	$m
1900–01	419	..	..	..	..	..	..
1938–39	1,847	1,860	..	..	..	..	..
1939–40	..	2,040	..	..	..	..	..
1940–41	..	2,174	..	..	..	..	..
1941–42	..	2,548	..	..	..	..	..
1942–43	..	2,936	..	..	..	..	..
1943–44	..	2,986	..	..	..	..	..
1944–45	..	2,906	..	..	..	..	..
1945–46	..	3,006	..	..	..	..	..
1946–47	..	3,234	..	..	..	..	..
1947–48	..	3,988	..	..	..	..	..
1948–49	..	4,524	4,324	7,258	..	..	..
1949–50	..	..	5,099	7,849	..	..	..
1950–51	..	..	6,773	8,318	..	..	..
1951–52	..	..	7,267	8,485	..	..	..
1952–53	..	..	8,242	8,468	..	..	..
1953–54	..	..	9,010	9,010	10,448	..	..
1954–55	..	..	9,597	9,487	11,078	..	..
1955–56	..	..	10,394	10,016	11,628	..	..
1956–57	..	..	11,318	10,268	11,849	..	..
1957–58	..	..	11,571	10,428	12,105	..	..
1958–59	..	..	12,428	11,341	12,997	..	..
1959–60	..	..	13,695	11,970	13,695	16,324	..
1960–61	..	..	14,564	..	14,128	16,872	..
1961–62	..	..	14,910	..	14,281	17,079	..
1962–63	..	..	16,103	..	15,205	18,231	..
1963–64	..	..	17,882	..	16,351	19,522	..
1964–65	..	..	19,664	..	17,615	20,917	..
1965–66	..	..	20,644	..	17,860	21.319	..
1966–67	..	..	22,687	..	19,001	22,687	41,886
1967–68	..	..	24,217	..	..	23,599	43,421
1968–69	..	..	27,336	..	..	25,719	47,495
1969–70	..	..	30,285	..	..	27,297	50,225
1970–71	..	..	33,509	..	..	28,569	52,875
1971–72	..	..	37,389	..	..	29,815	55,212
1972–73	..	..	42,538	..	..	31,243	57,247
1973–74	..	..	51,034	..	..	32,949	60,305
1974–75	..	..	61,260	..	..	33,403	61,260
1975–76	..	..	72,209	..	..	..	62,943
1976–77	..	..	82,780	..	..	..	64,893
1977–78	..	..	90,295	..	..	..	65,570
1978–79	..	..	101,633	..	..	..	68,638

(*a*) For a description of constant price estimates, *see Australian National Accounts,* 1976–77 (5204.0) *pp 15 and 109.* (*b*) N.G. Butlin, *Australian Domestic Product, Investment and Foreign Borrowing* 1861—1938–39, Cambridge University Press, Cambridge, 1962. Gross domestic product excluding livestock accumulation approximates conceptually gross domestic product as defined in the Australian National Accounts. (*c*) Published by the Commonwealth Statistician. Figures prior to 1948–49 are from *National Income and Expenditure* 1955–56 and are not strictly comparable with subsequent figures because of a number of definitional changes and statistical revisions; *see* pages 18–19, 117–20, *Australian National Accounts* 1948 49 *to* 1961–62, Commonwealth Bureau of Census and Statistics. (*d*) *Australian National Accounts* 1977–78, Australian Bureau of Statistics, and, for the last five years, the Budget Paper No. 9, *National Income and Expenditure* 1978–79.

NATIONAL ACCOUNTS—*continued*

GROSS FIXED CAPITAL EXPENDITURE

Year	*At current prices*		*At constant prices(a)*			
	(*b*)	(*c*)	*1953–54 prices(c)*	*1959–60 prices(c)*	*1966–67 prices(c)*	*1974–75 prices(c)*
	$m	$m	$m	$m	$m	$m
1900–01	56	..	..	..	..	..
1938–39	298	(316)	..	..	..	..
1939–40	..	..	..	..	..	..
1940–41	..	..	..	..	..	..
1941–42	..	..	..	..	..	..
1942–43	..	..	..	..	..	..
1943–44	..	..	..	..	..	..
1944–45	..	..	..	..	..	..
1945–46	..	..	..	..	..	..
1946–47	..	..	..	..	..	..
1947–48	..	..	..	..	..	..
1948–49	..	792	1,350	..	..	..
1949–50	..	1,064	1,652	..	..	..
1950–51	..	1,524	2,049	..	..	..
1951–52	..	1,938	2,194	..	..	..
1952–53	..	1,937	1,983	..	..	..
1953–54	..	2,128	2,128	2,511	..	..
1954–55	..	2,353	2,294	2,698	..	..
1955–56	..	2,567	2,380	2,811	..	..
1956–57	..	2,667	2,380	2,819	..	..
1957–58	..	2,856	2,499	2,951	..	..
1958–59	..	3,022	2,614	3,085	..	..
1959–60	..	3,405	2,886	3,405	3,947	..
1960–61	..	3,671	..	3,569	4,159	..
1961–62	..	3,708	..	3,558	4,152	..
1962–63	..	4,014	..	3,837	4,466	..
1963–64	..	4,499	..	4,227	4,915	..
1964–65	..	5,250	..	4,789	5,561	..
1965–66	..	5,723	..	5,077	5,912	..
1966–67	..	6,009	..	5,159	6,009	11,100
1967–68	..	6,533	..	..	6,355	11,772
1968–69	..	7,262	..	..	6,817	12,658
1969–70	..	7,918	..	..	7,123	13,296
1970–71	..	8,774	..	..	7,434	14,020
1971–72	..	9,628	..	..	7,638	14,349
1972–73	..	10,161	..	..	7,580	14,231
1973–74	..	11,755	..	..	7,806	14,508
1974–75	..	14,208	..	..	7,680	14,208
1975–76	..	16,922	..	..	..	14,629
1976–77	..	18,917	..	..	..	14,515
1977–78	..	20,602	..	..	..	14,464
1978–79	..	22,713	..	..	..	14,930

(*a*) For a description of constant price estimates, *see Australian National Account 1976–77 (5204.0) pp 15 and 109.* (*b*) N. G. Butlin, *op cit.* For a variety of reasons, Professor Butlin's gross domestic capital formation figures given here, differ conceptually from those for gross fixed capital expenditure in the Australian National Accounts. (*c*) *Australian National Accounts* 1977–78, Australian Bureau of Statistics, and for the last five years, the Budget Paper No. 9, *National Income and Expenditure,* 1978–79. The figure of $316 million for gross fixed capital expenditure in 1938–39 is based on a reconstruction of earlier estimates, and is approximately consistent with the present Australian National Accounts series.

PRIVATE FINANCE

NOTE ISSUE BANKING

Year ended 30 June—	Australian notes on issue (a)	Trading banks		Bank clearings (c)	Savings banks
		Advances (b)	Deposits (b)		Depositors balances(d)
	$m	$m	$m	$m	$m
1902	. .	188	186	13	62
1912	16	238	300	25	118
1922	107	364	578	65	308
1932	103	522	638	55	396
1942	205	648	965	142	549
				Debits to customers' accounts(c)	
1950	463	1,062	2,257	655	1,524
1951	551	1,271	2,815	897	1,675
1952	605	1,656	2,564	866	1,784
1953	657	1,450	2,856	878	1,895
1954	688	1,690	3,061	1,101	2,020
1955	726	1,982	3,089	1,129	2,147
1956	745	1,945	2,992	1,124	2,282
1957	763	1,897	3,231	1,251	2,455
1958	775	2,060	3,240	1,284	2,594
1959	790	2,007	3,362	1,432	2,783
1960	843	2,211	3,611	1,737	3,045
1961	839	2,238	3,600	1,654	3,155
1962	856	2,287	3,837	1,848	3,470
1963	869	2,465	4,064	2,028	3,940
1964	870	2,610	4,649	2,318	4,476
1965	862	2,955	5,038	2,653	4,887
1966	849	3,183	5,308	2,660	5,254
1967	938	3,548	5,614	2,964	5,765
1968	1,006	4,020	6,087	3,572	6,222
1969	1,107	4,384	6,706	4,035	6,707
1970	1,216	4,903	7,099	4,861	7,105
1971	1,369	5,317	7,431	5,668	7,635
1972	1,499	5,876	8,322	6,146	8,391
1973	1,758	7,856	11,072	8,035	10,238
1974	2,146	10,120	12,714	8,988	11,196
1975	2,557	11,205	14,936	10,095	(e)12,869
1976	2,921	12,576	16,955	13,368	14,823
1977	3,291	14,006	19,089	14,879	16,365
1978	3,670	15,634	19,746	17,624	18,046
1979	4,107	17,568	22,179	20,554	19,832

(*a*) Last Wednesday in June. (*b*) June quarter up to and including 1942; weekly average for month of June thereafter. (*c*) Weekly average, June month. (*d*) End of June. (*e*) From June 1975 break in series due to a change in accounting procedures by one bank.

PRIVATE FINANCE—*continued*

LIFE INSURANCE (*a*)(*b*)

	Ordinary (*c*)		*Industrial*		*Total*	
	Policies	*Sum assured*	*Polices*	*Sum assured*	*Policies*	*Sum assured*
	'000	$m	'000	$m	'000	$m
1901	414	216	236	10	650	226
1911	484	218	467	20	951	238
1921	730	362	973	60	1,703	422
1931	871	570	1,550	134	2,421	704
1941	1,340	926	2,780	254	4,120	1,180
1949	2,224	1,862	3,725	448	5,949	2,310
1950	2,377	2,094	3,793	477	6,170	2,571
1951	2,554	2,424	3,843	507	6,396	2,931
1952	2,731	2,757	3,873	541	6,604	3,298
1953	2,893	3,105	3,881	571	6,774	3,677
1954	3,033	3,482	3,827	594	6,860	4,076
1955	3,184	3,942	3,766	615	6,949	4,556
1956	3,319	4,447	3,702	631	7,021	5,077
1957	3,446	5,067	3,615	645	7,061	5,712
1958	3,577	5,747	3,531	657	7,108	6,404
1059	3,710	6,571	3,443	665	7,154	7,236
1960	4,110	7,690	3,340	686	7,450	8,376
1961	4,201	8,743	3,199	707	7,400	9,450
1962	4,291	9,854	3,076	743	7,366	10,597
1963	4,401	11,010	2,953	777	7,354	11,787
1964	4,539	12,481	2,851	823	7,390	13,304
1965	4,705	14,057	2,755	871	7,460	14,928
1966	4,873	15,750	2,644	918	7,517	16,668
1967	5,051	17,762	2,603	981	7,654	18,743
1968	5,251	20,357	2,561	1,041	7,812	21,397
1969(*d*)	5,428	23,245	2,530	1,114	7,958	24,360
1970	5,607	27,229	2,500	1,212	8,107	28,441
1971	5,873	32,420	2,471	1,329	8,344	33,749
1972	6,143	37,879	2,389	1,442	8,532	39,321
1973	5,856	44,376	2,319	1,551	8,777	45,927
1974	6,536	52,249	2,174	1,580	8,711	53,829
1975	6,588	60,896	2,030	1,602	8,618	62,498
1976	6,521	69,965	1,872	1,634	8,394	71,600
1977	6,469	81,237	1,706	1,627	8,175	82,864

(*a*) Existing business in Australia. (*b*) Relates to companies' financial years which ended during the calendar years shown. (*c*) Includes superannuation business. (*d*) Prior to 1969 includes business in Papua New Guinea.

PUBLIC FINANCE

	COMMONWEALTH GOVERNMENT				STATE				GOVERNMENT SECURITIES ON ISSUE (*a*)				
	Consolidated revenue fund				*Consolidated revenue fund*								
Year ended 30 June—	*Revenue*	*Expenditure*	*Net loan fund expenditure (b)*	*Taxation collections*	*Revenue*	*Expenditure*	*Net loan expenditure (b)*	*Taxation collections*	*Commonwealth Government*	*State*	*Total*	*Overseas*	*In Australia*
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
1902 . . .	23	8	. .	18	56	58	19	5	. .	429	429	n.a.	n.a.
1912 . . .	41	29	2	32	83	82	33	11	12	557	569	388	181
1922 . . .	128	128	10	99	170	175	67	36	708	1,039	1,747	823	924
1932 . . .	143	143	8	109	199	242	12	65	692	1,800	2,492	1,320	1,172
1942 . . .	420	420	426	362	305	299	17	115	1,340	2,038	3,378	1,312	2,066
1950 . . .	1,161	1,161	85	1,018	521	525	147	83	3,731	2,367	6,098	1,099	4,999
1951 . . .	1,684	1,684	101	1,447	613	613	257	103	3,777	2,619	6,396	1,067	5,329
1952 . . .	2,034	2,034	63	1,848	777	783	395	126	3,838	2,993	6,830	1,113	5,717
1953 . . .	2,080	2,080	71	1,783	876	877	322	142	3,893	3,288	7,181	1,142	6,038
1954 . . .	2,046	2,046	83	1,810	941	935	335	161	3,964	3,573	7,537	1,165	6,372
1955 . . .	2,135	2,135	66	1,882	991	998	321	179	3,998	3,846	7,844	1,216	6,628
1956 . . .	2,227	2,277	88	2,014	1,052	1,082	312	196	4,031	4,121	8,151	1,269	6,882
1957 . . .	2,624	2,624	88	2,208	1,154	1,168	317	229	3,957	4,396	8,353	1,216	7,138
1958 . . .	2,648	2,648	90	2,338	1,210	1,224	314	256	3,670	4,686	8,356	1,248	7,100
1959 . . .	2,592	2,592	132	2,283	1,280	1,295	338	276	3,512	4,988	8,499	1,319	7,186
1960 . . .	2,877	2,877	119	2,519	1,399	1,404	357	320	3,334	5,301	8,635	1,389	7,242
1961 . . .	3,277	3,277	83	2,871	1,511	1,513	384	335	3,215	5,630	8,845	1,413	7,438
1962 . . .	3,283	3,283	182	2,858	1,609	1,617	395	394	3,119	5,963	9,082	1,424	7,655
1963 . . .	3,371	3,371	274	2,907	1,694	1,696	405	438	3,121	6,314	9,434	1,522	7,917
1964 . . .	3,809	3,809	226	3,247	1,829	1,829	438	496	3,172	6,691	9,863	1,545	8,314
1965 . . .	4,418	4,418	167	3,819	1,947	1,965	477	549	3,134	7,091	10,225	1,529	8,697
1966 . . .	4,879	4,879	(*c*)260	4,221	2,094	2,119	492	591	3,145	7,495	10,639	1,505	9,138
1967 . . .	5,228	5,288	(*c*)362	4,492	2,286	2,289	516	664	3,275	7,934	11,209	1,532	9,675
1968 . . .	5,760	5,760	(*c*)499	4,952	2,463	2,468	540	753	3,600	8,317	11,917	1,558	10,358
1969 . . .	6,086	6,086	(*c*)236	5,528	2,689	2,700	574	861	3,682	8,831	12,512	1,698	10,813
1970 . . .	6,979	6,979	(*c*)446	6,380	3,010	3,028	615	962	3,885	9,320	13,205	1,580	11,625
1971 . . .	7,838	7,838	(*c*)439	7,183	3,457	3,483	628	1,010	3,801	9,691	13,492	1,546	11,946
1972 . . .	8,688	8,688	(*c*)218	7,939	4,035	4,050	896	1,414	3,808	10,227	14,035	1,442	12,592
1973 . . .	9,278	9,278	(*c*)281	8,470	4,675	4,704	973	1,781	3,963	10,781	14,744	1,265	13,479
1974 . . .	11,976	11,976	(*c*)239	10,917	5,481	5,514	868	2,207	4,088	11,219	15,306	1,032	14,274
1975 . . .	15,391	15,391	(*c*)1,785	14,211	7,109	7,187	1,097	2,792	5,956	11,814	17,770	1,182	16,587
1976 . . .	19,713	19,713	2,277	16,938	8,774	8,736	1,379	3,470	9,010	11,328	20,338	1,325	19,013
1977 . . .	21,436	21,436	1,912	19,776	10,258	10,231	1,465	3,973	11,192	12,099	23,290	1,871	21,420
1978 . . .	23,455	23,455	2,461	21,501	11,398	11,431	1,506	4,301	13,992	12,931	26,923	3,635	23,287
1979 . . .	25,484	25,484	2,857	23,534	12,356	12,355	1,490	4,652	17,405	13,681	31,086	5,255	25,831

(*a*) At 30 June. Expressed in Australian currency equivalents at ruling rates of exchange. (*b*) Loan expenditure on works and services. (*c*) Includes expenditure financed under the United States Defence Credits Arrangements.

SOCIAL

PENSIONS, BENEFITS, ETC.

	Age and invalid pensions (including Wives' Allowances Pensions)			*Family allowances (a)*		*Widow's pensions*		*Unemployment benefits*	
Year ended 30 June—	*Pensioners (b)*	*No. of wives (c)*	*Amount paid (d)*	*No. of children (b)*	*Allowance paid*	*Pensioners (b)*	*Amount paid (d)*	*No. on benefit—weekly average*	*Amount paid (d)*
	'000	'000	$m	'000	$m	'000	$m	'000	$m
1902	. .	. .	. .	. .	. .	. .	. .	. .	. .
1912	90	. .	4.3	. .	. .	. .	. .	. .	. .
1922	147	. .	10.8	. .	. .	. .	. .	. .	. .
1932	261	. .	22.3	. .	. .	. .	. .	. .	. .
1942	341	. .	38.5	910	22.6	. .	. .	. .	. .
1950	414	13	89.1	1,836	(*e*)60.7	43	8.8	13	2.5
1951	417	12	99.0	2,389	87.2	42	9.7	1	(*f*)
1952	426	11	119.6	2,518	93.2	41	11.2	2	(*f*)
1953	451	12	144.8	2,624	(*e*)106.5	41	12.7	30	9.1
1954	478	12	162.6	2,717	101.5	41	13.2	14	5.0
1955	510	13	176.0	2,789	105.1	42	13.7	4	1.4
1956	535	13	203.3	2,876	(*e*)120.8	43	15.4	4	1.4
1957	554	13	218.4	2,978	114.1	45	17.7	12	4.2
1958	574	12	243.2	3,074	117.5	47	19.7	24	9.8
1959	598	12	259.1	3,172	(*e*)135.1	50	21.6	28	11.9
1960	619	13	294.0	3,252	125.1	52	24.3	21	9.0
1961	651	14	315.9	3,340	(*e*)148.6	55	26.9	22	8.9
1962	691	14	360.5	3,420	132.8	57	30.2	53	25.3
1963	711	15	375.5	3,458	135.4	58	31.4	40	21.3
1964	725	16	399.9	3,631	(*e*)168.8	62	41.6	26	13.5
1965	736	16	426.6	3,711	172.8	65	47.0	14	6.8
1966	744	17	442.4	3,763	176.4	69	50.0	15	7.8
1967	764	19	481.8	3,835	(*e*)199.3	73	56.4	21	11.2
1968	797	19	514.0	3,891	187.9	75	61.1	21	11.2
1969	827	20	558.6	3,996	193.3	78	69.1	18	9.3
1970	913	23	642.0	4,079	(*e*)220.1	87	81.8	13	8.9
1971	942	23	702.3	4,156	198.5	90	90.5	15	10.8
1972	972	24	818.5	4,235	216.6	93	104.6	29	26.0
1973	1,081	41	1,072.4	4,239	(*e*)253.9	106	140.5	40	46.6
1974	1,184	47	1,372.4	4,261	225.4	115	181.0	34	58.2
1975	1,266	51	1,918.9	4,284	224.9	121	241.4	117	251.7
1976	1,342	59	2,536.4	4,293	(*e*)265.5	129	325.3	192	513.9
1977	1,408	69	2,994.6	4,302	1,023.3	139	370.2	216	618.1
1978	1,469	78	3,532.3	4,304	1,038.1	150	439.5	266	794.1
1979	1,512	86	3,919.4	4,231	(*g*)974.9	161	499.3	(*h*)306	910.0

(*a*) Previously child and student endowment. (*b*) At 30 June. (*c*) Wives' allowance commenced on 8 July 1943 and was replaced by wives' pension on 5 October 1972. (*d*) Includes expenditure on additional pension/benefit for children. (*e*) Five 12-weekly payments made during the year instead of the normal four. (*f*) Less than $0.05 million. (*g*) Does not include $22,714,000 paid in respect of family allowance payday 3 July 1979. (*h*) Estimate used for Western Australia.

SOCIAL—*continued*

PENSIONS, BENEFITS, ETC.—*continued*

Year ended 30 June—	*Hospital and nursing home benefits—amount paid*	*Medical benefits—amount paid*	*Pharmaceutical benefits—amount paid*	*Total Australian Government expenditure on pensions, benefits, etc.(a)*	*Disability pensions paid to veterans and dependants*		*Service pensions paid to veterans and dependants*	
					No. (b)	*Amount paid*	*No (b)*	*Amount paid*
	$m	$m	$m	$m	'000	$m	'000	$m
1902	..	..	..	..	..	..	..	..
1912	..	..	..	4.3	..	..	..	..
1922	..	..	..	12.1	225	14.1	..	..
1932	..	..	..	23.0	274	14.9	..	..
1942	..	..	..	61.8	220	15.0	14	1.2
1950	12.6	..	0.1	185.6	471	42.1	16	2.9
1951	13.1	..	5.9	230.0	503	53.1	17	3.0
1952	13.4	2.1	15.4	275.2	525	66.7	17	3.6
1953	14.4	3.5	14.4	331.0	544	72.6	19	4.5
1954	16.7	7.2	18.5	353.1	564	78.1	21	5.4
1955	18.6	13.5	21.5	378.6	584	87.8	22	6.0
1956	19.1	14.6	23.8	429.7	600	91.3	35	8.3
1957	19.6	18.3	23.4	447.8	614	95.6	39	9.8
1958	21.6	20.6	30.1	495.0	629	106.6	42	11.3
1959	29.6	23.2	41.9	556.5	643	109.0	44	12.4
1960	37.2	26.8	48.7	598.7	655	117.5	46	13.5
1961	41.3	28.4	55.8	661.2	662	132.6	50	15.6
1962	44.4	30.6	70.4	730.4	671	135.1	58	19.4
1963	47.3	32.6	76.9	758.6	671	140.7	62	21.7
1964	56.2	34.4	78.8	832.7	669	154.5	65	24.2
1965	58.8	44.6	82.2	890.4	660	153.5	65	25.5
1966	60.7	54.6	91.8	941.6	647	170.5	66	28.2
1967	67.4	58.2	101.3	1,031.1	632	161.7	67	29.1
1968	74.8	62.5	105.1	1,075.0	617	164.4	69	31.8
1969	85.9	66.5	118.4	1,162.3	601	182.8	67	34.1
1970	111.4	76.1	136.7	1,341.8	585	183.5	74	39.9
1971	122.8	115.5	160.3	1,477.2	570	191.4	77	43.7
1972	162.0	160.4	173.3	1,752.3	553	211.1	78	49.2
1973	198.9	191.1	177.6	2,197.4	546	225.0	96	72.3
1974	226.5	198.9	218.3	2,666.2	532	252.2	109	103.6
1975	292.8	243.6	262.3	3,691.0	514	314.1	122	155.2
1976	254.1	86.1(*c*)	283.8	4,658.4	499	340.1	142	218.9
1977	195.4	1.7(*c*)	234.9	5,925.4	485	371.5	164	283.3
1978	188.5	0.2(*c*)	256.0	6,794.8	463	419.0	189	372.1

(*a*) National Welfare Fund items only, including expenditure for all years on pensions, benefits, etc. which subsequently became payable from the National Welfare Fund. In addition to the items shown in the preceding columns, the tables include expenditure on—the rehabilitation service; milk for school children; tuberculosis campaign; sickness, special and funeral benefits and some miscellaneous welfare and health services. Excludes war and service pensions, telephone rental concessions for pensioners and some minor welfare and health services. (*b*) At 30 June. (*c*) Medical benefits applicable to the period after 1 October 1975 are no longer paid from the National Welfare Fund.

SOCIAL—*continued*

	EDUCATION						POLICE AND PRISONS	
	Schools							
	Government		*Non-government*		*Universities (b)*			
Year(*a*)	*Schools*	*Pupils*	*Schools*	*Pupils*	*Number*	*Students*	*Police(c)*	*Convicted Prisoners*
	'000	'000	'000	'000		'000	'000	'000
1902	7.2	637	2.4	144	4	1.9	5.9	4.2
1912	8.4	663	1.9	164	6	3.8	6.6	3.4
1922	9.6	837	1.7	202	6	7.8	7.0	3.0
1932	10.2	934	1.8	221	6	9.9	8.6	4.1
1942	9.0	868	1.8	250	6	10.8	9.7	3.5
1949	7.9	971	1.8	293	8	31.8	11.1	3.8
1950	7.8	1,027	1.9	310	8	30.6	11.5	4.0
1951	7.6	1,078	1.9	326	8	31.7	11.9	4.2
1952	7.6	1,145	1.9	348	8	29.6	12.6	4.8
1953	7.6	1,206	2.0	366	8	28.8	12.7	4.8
1954	7.6	1,275	2.0	388	9	29.4	12.6	4.8
1955	7.6	1,337	2.1	410	9	30.8	12.9	5.1
1956	7.7	1,357	2.1	432	9	34.4	13.5	6.0
1957	7.7	1,425	2.1	453	9	36.6	14.1	6.4
1958	7.8	1,496	2.0	471	9	41.5	14.5	6.6
1959	7.8	1,558	2.1	489	9	47.2	14.9	6.6
1960	7.9	1,613	2.1	511	9	53.4	15.3	6.8
1961	7.9	1,664	2.1	527	9	57.7	15.9	7.2
1962	7.9	1,711	2.2	540	10	63.3	16.4	7.4
1963	7.9	1,754	2.2	553	10	69.1	16.7	7.7
1964	7.9	1,799	2.2	565	10	76.2	17.2	7.7
1965	7.8	1,855	2.2	580	11	83.3	17.6	7.7
1966	7.8	1,919	2.2	583	13	91.3	18.4	8.1
1967	7.7	1,991	2.2	595	14	95.4	19.0	8.7
1968	7.6	2,055	2.2	601	14	101.5	19.7	8.8
1969	7.5	2,114	2.2	603	14	109.7	20.1	9.2
1970	7.5	2,160	2.2	608	15	116.8	20.3	9.3
1971	7.4	2,197	2.2	611	15	123.8	21.0	9.5
1972	7.4	2,229	2.2	612	15	128.7	22.2	9.8
1973	7.3	2,241	2.2	613	15	133.1	23.1	9.1
1974	7.3	2,258	2.2	618	17	142.9	24.4	7.6
1975	7.3	2,298	2.1	621	18	148.3	25.7	7.8
1976	7.3	2,335	2.1	625	18	154.0	26.3	8.0
1977	7.3	2,364	2.1	631	19	158.4	27.4	8.1
1978	7.4	2,371	2.1	639	19	160.0	28.2	8.7

(*a*) Years ended at varying dates for education statistics. Years ended 30 June for Police and Prisons. (*b*) A university is counted for the first time when it enrols its first student and not from the date it was founded. (*c*) Excludes Commonwealth Police.

DIARY OF PRINCIPAL ECONOMIC EVENTS, JANUARY 1979 TO DECEMBER 1979

The diary records major announcements by Commonwealth and State governments which concern the Australian economy. Included are announcements on interest rates, taxation, capital raisings, tariff protection and industry assistance. Also included are significant announcements by the Australian Reserve Bank relating to Australian banking, monetary policy, etc, and by private and public enterprises relating to major investment plans, prices, etc. It also records national wage case decisions announced by the Arbitration Commission. In some instances closely related items have been recorded together against the first relevant date.

January 1979

4 The Commonwealth Government announced that Australia had received an allocation of 82.16 million Special Drawing Rights (SDR) from the International Monetary Fund (IMF). This allocation is the first in a series of three which the Fund is to make, to all participants in the SDR scheme, over the period 1979–81.

5 Broken Hill Pty Ltd (BHP) announced that it would increase the prices of its iron and steel products by a weighted average of 4.38 per cent. The increases, ranging from 3.76 per cent for electrolytic tinplate to 4.67 per cent for merchant bars, would apply from 8 January 1979.

9 It was announced that the Commonwealth Government had reached agreement with the Ranger joint venturers Peko Wallsend Operations Ltd, the Electrolytic Zinc Company of Australasia Ltd, and the Atomic Energy Commission on the terms and conditions under which the Ranger uranium deposits will be developed.

10 The Commonwealth Government announced that the quota allocated to Australia for beef exports to the United States this year would be the highest on record. The initial entitlement to ship almost 366,000 tonnes to the United States in 1979 represented 51.34 per cent of total planned U.S. beef imports for the year.

11 The Governor of the Reserve Bank announced that the Statutory Reserve Deposit ratio of the major trading banks was being raised from 3.5 per cent to 4.5 per cent, effective 16 January 1979. The move would require banks to lodge approximately an additional $195 million in their Statutory Reserve Deposit accounts with the Reserve Bank.

12 It was announced by the Commonwealth Government that Australia had re-negotiated its 1978 Steel Export Arrangement with the Commission of the European Communities on favourable terms. Under the new Arrangement, Australia has agreed to limit its exports to the Community for 1979, for those steel products covered by the Arrangement, to 450,000 tonnes, the level previously agreed for 1978.

The Prices Justification Tribunal (PJT) granted an increase of 0.85 cents per litre in the price of fuel for transport and heating.

21 The Chairman of the Australian Wheat Board announced that agreement had been reached with China for the sale of 2.5 million tonnes of wheat this year and up to 2.5 million tonnes in each of the following two years.

25 It was announced that the Commonwealth Government had completed a DFl 300 million ($A132 million) syndicated bank loan. The borrowing, from four major Dutch banks, carries an interest rate of 9.25 per cent per annum for its 10 year term. After taking costs and commissions into account, the effective cost to the Commonwealth is 9.33 per cent per annum.

The Bureau of Agricultural Economics announced that it had revised upwards its estimate of the 1978–79 wheat crop to a record 17.5 million tonnes.

29 The Commonwealth Government announced some changes in the conditions which apply to exchange control authorities for direct investment overseas by Australian residents. The main change was that with some exceptions and subject to certain reporting procedures, earnings from such investments may be retained overseas for the financing of growth in working capital and for firmly planned future expansion without specific prior exchange control authority. This change applies to existing as well as future investments.

February 1979

6 General Motors-Holden Ltd announced plans to build a $210 million complex for the production of four-cylinder engines, with the main objective of obtaining export credits under the Local Content Plan. The Government accepted certain basic proposals by the industry for the inclusion of an export credit scheme in the Plan with further elaboration of the proposals to follow consideration of a report by the Industries Assistance Commission (IAC).

It was announced that the Commonwealth Government had substantially accepted the IAC's recommendations in relation to local production of fine printing and writing paper. The recommendations were that the industry continue to be assisted by a duty of 20 per cent on the majority of its production. It was also recommended that production and sale on the domestic market of uncoated and lightweight coated magazine printing paper be assisted by a bounty instead of a duty. The level of bounty would be $70 per tonne for uncoated paper and $90 per tonne for coated paper, and will be payable for a period of eight years. The Government decided, however, to place a limit on the amount of bounty payable in any one year. This limit would be $2.5 million.

7 ICI Australia Limited announced plans for the expansion of its petrochemical capacity in Australia. The Company proposed a total investment of $900 million between 1979 and 1986. The plans comprise a $400 million expansion at the company's Botany Bay site in New South Wales, including construction of an ethylene plant, and expenditure of $500 million on a new petrochemical complex at Point Wilson, near the Victorian port of Geelong.

9 The discovery of a 1,000 million tonne deposit of high grade iron ore at Yandicoogina Creek in the Pilbara Region of Western Australia was announced by a spokesman for Colonial Sugar Refinery Limited (CSR). The ore has a value of about $12,000 million at current prices and is expected to be marketed by the early 1980s pending the outcome of feasibility and marketing studies which will be undertaken as soon as possible.

11 The Commonwealth Government announced terms for a February conversion loan, with rates offered up to 0.2 percentage points above comparable rates offered in the conversion loan in November 1978; that no cash loan would be held in February; increases of 0.2 percentage points in maximum rates for borrowings by local and semi-government authorities, effective 12 February; and termination of the advance subscription facility to Commonwealth cash loans.

15 The Australian Wheat Board announced that receivals from the 1978–79 wheat crop are estimated to reach a record 17.2 million tonnes (the previous record being 14.0 million tonnes in the 1968–69 crop year).

16 The Commonwealth Government released details of the number of foreign investment proposals decided by the Government during the first six months of 1978–79. During this period, 544 proposals for foreign investment in Australia were considered. Of these proposals:

- 75 (13.8 per cent) did not require approval under the Foreign Takeovers Act or the foreign investment policy;
- 304 (55.9 per cent) were approved without conditions;
- 161 (29.6 per cent) were approved subject to the parties to the proposals meeting conditions in respect of such matters as Australian equity participation, consultation with Government bodies, re-sale of real estate and periodic reporting to the Government; and
- 4 (0.7 per cent) were rejected.

The total anticipated expenditure associated 7ith the 465 proposals which were approved is $1,764 million.

It was announced that the Commonwealth Government had accepted the recommendations of the IAC in its report of 29 November 1978 on umbrellas, sunshades, etc. and parts thereof. The Commonwealth Government announced that umbrellas and sunshades and parts thereof, other than textile covers, cases and trimmings, would become dutiable at 30 per cent General and Preferential, and that textile covers, cases and trimmings would continue to be dutiable at rates of 30 per cent General and 19 per cent Preferential.

21 The Governor of the Reserve Bank of Australia announced that the Statutory Reserve Deposit ratio of the major trading banks would be raised from 4.5 per cent to 5.5 per cent with effect from 2 March. The move would require banks to lodge approximately an additional $200 million in their Statutory Reserve Deposit accounts with the Reserve Bank.

22 The Commonwealth Government announced the conclusion of negotiations with Credit Suisse, Swiss Bank Corporation and Union Bank of Switzerland for a bank loan and a private placement. Each borrowing was for an amount of SF250 million (approximately $A132 million). The bank loan, which was lead managed by Union Bank of Switzerland on behalf of the other two banks, carries an interest rate of 3.25 per cent and is due to mature in 1984. The private placement, which was lead managed by Credit Suisse, is due to mature in 1986 and carries an interest rate of 3.125 per cent. Commission payable on the private placement is 1.75 per cent; there are no additional costs on the bank loan.

28 It was announced by the Commonwealth Government that Australia is to sell an additional 8,700 tonnes of beef to the United States this calendar year, lifting total access for 1979 to over 374,000 tonnes.

March 1979

1 It was announced by the Commonwealth Government that the price of domestic crude oil will increase by 5.3 per cent from 1 July 1979.

7 It was announced by the Commonwealth Government that it approved the development of the Nabarlek uranium deposit by Queensland Mines Limited subject to compliance with the applicable legal and administrative requirements.

9 It was announced that the Commonwealth Government had decided that the royalty on the Nabarlek uranium deposit would be 3.75 per cent of net sales, proceeds calculated in accordance with the present formula in the Mining Act of the Northern Territory. The royalty will be reviewed and fixed by the Commonwealth five years from the date of issue of the Special Mineral Lease to Queensland Mines Limited by the Northern Territory Government.

The Commonwealth Government announced that in order to limit the impact on the rate of growth of the money supply caused by the record 1978–79 wheat crop, part of the additional financing requirements of the Australian Wheat Board in 1978–79 was to be met by an issue of commercial bills.

The Full Bench of the Arbitration Commission handed down a judgment granting working women up to 12 months unpaid maternity leave provided they have at least twelve months unbroken service with their employer. The decision also included the provision that employers are prohibited from dimissing women on the grounds of pregnancy or absence on maternity leave. Six weeks of the leave have been made compulsory and are to be taken immediately following confinement. The final decision on how much of the twelve months entitlement a woman may take will be left to the employee herself.

10 Robe River Limited reached agreement with the Japanese steel mills in price negotiations for 1979. As a result of this latest settlement, the overall Australian iron ore price for exports to Japan will increase by nearly 8.5 per cent.

12 The Commonwealth Government announced that final terms for the Commonwealth's tenth public bond issue in Switzerland had been agreed to. The borrowing, for an amount of SF250 million ($A133.4 million, approximately), is the final component in a borrowing package which included a SF250 million bank loan and a SF250 million private placement. The public issue carries an interest rate of 3.625 per cent and matures in 1989.

13 A mission from the OECD Secretariat visited Australia from 13 to 16 March as part of the preparation of the next Economic Survey of Australia.

14 The Commonwealth Government announced that tariff quotas would be introduced, with effect from 1 March 1979, on imports of two categories of wool and wool blend fabrics.

19 The Commonwealth Government announced that amending legislation would be introduced into the Parliament to continue the floor price scheme for wool for a further year.

20 It was announced that the Commonwealth Government had decided to increase the underwritten quota ceiling for butter for the 1978–79 season by 3,000 tonnes from 98,000 to 101,000 tonnes.

29 An increase in defence expenditure for 1979–80 was announced by the Commonwealth Government. The increase will be not less than 2 per cent in real terms. The defence allocation in money terms in the 1978–79 budget was $2,501 million and this is expected to increase by at least $180 million. The growth in expenditure on capital assets will be concentrated on equipment rather than buildings, and restrictions on the growth of manpower will continue.

April 1979

3 The Commonwealth Government announced that, following consideration of the IAC's report of 27 October 1978 on animal and vegetable oil and fats, etc., the Government had decided to implement the Commission's recommendations in respect of most products covered by the report. Unsaturated margarine will be dutiable at 20 per cent for two years and then reviewed. The vegetable oils previously subject to a tariff of $70.13 per tonne will now be dutiable at 10 per cent.

4 It was announced that Alcoa of Australia Limited will build a $350 million export oriented aluminium smelter in Victoria.

10 British Petroleum Australia Limited announced that it will spend $35 million on its oil refinery at Kwinana, Western Australia. The company outlined a programme that will lift production of motor spirit by 150,000 tonnes a year.

11 The Government's decision on the IAC report on nuts, bolts and screws, etc. of 1 February 1979 was announced today. The general rates of duty on nuts, bolts and screws (threaded fasteners), which for most of these goods was about 30 per cent, would be reduced to 25 per cent.

A range of reduced domestic air fares with concessions up to 40 per cent were announced by the Commonwealth Government. The maximum 40 per cent reduction will apply to travel at specified 'off-peak' travelling times provided tickets are paid for 45 days in advance.

12 The Commonwealth Government announced that, as from the opening of business Tuesday, 17 April, the yield on new issues of Treasury Notes would be increased by 0.67 percentage points to 9.023 per cent per annum for 13-week Notes and by 0.68 percentage points to 9.296 per cent per annum for 26-week Notes.

13 The Prices Justification Tribunal granted an increase of 0.55 cents per litre in the wholesale price of petrol following an application by the Shell Company of Australia Limited for an increase of 1.54 cents per litre.

19 It was announced that a $500 million aluminium smelter will be built at Newcastle, N.S.W., by the U.S.-Japanese consortium, Alumax Inc. The smelter, which is due to begin operations by the mid-1980s, will have an initial production capacity of almost 180,000 tonnes a year.

22 The Commonwealth Government announced a number of measures intended to slow the rate of growth in the money supply. These included:

- introduction of a new series of Australian Savings Bonds—Series 14—to carry an interest rate of 9.25 per cent, an increase of 0.5 percentage points;
- an increase in the limit on individual holdings of Australian Savings Bonds and Special Bonds, all series combined, from $100,000 to $150,000;
- an increase of 0.7 percentage points in the maximum permissible interest rates that semi-government and local authorities can offer on their public and private borrowings; and
- refinancing through private markets of up to a further $300 million of the Australian Wheat Board's advance from the Rural Credits Department of the Reserve Bank.

27 The Prices Justification Tribunal granted a further increase of 0.5 cents per litre in the wholesale price of petrol.

29 The New South Wales Government announced plans to build a $450 million power station in the Hunter Valley. The new Bayswater Power Station will contain two 660 megawatt generators and is due to begin operation in 1985 and to reach full production two years later.

May 1979

1 The Commonwealth and Queensland Governments announced that the maximum price of IXD (manufacturing) grade refined sugar sold in Australia would be increased by $80 per tonne. It had also been agreed that no further increase would be granted until at least 1 July 1980.

8 The Commonwealth Government announced its decision on assistance to the production of injection moulding machines. Following consideration of the IAC report on miscellaneous industrial machinery, the duty on injection moulding machines would be reduced from 55 per cent to 15 per cent and transitional bounty assistance, phasing down from 45 per cent over five years, to assist restructuring in the industry, would also be provided.

9 The Commonwealth Government announced terms for a proposed conversion offer to holders of $241 million of Commonwealth securities which matured on 15 May 1979. The long-term bond rate was lifted 0.7 percentage points to reflect developments in the bond market since February.

The government of Western Australia introduced a levy of 1 cent per litre on petrol and 4 cents per litre on diesel fuel. The levies were introduced to replace road maintenance tax.

11 A new Trade Agreement between Australia and the Philippines came into effect, replacing the 1965 Agreement.

22 The Chairmen of the Australia and New Zealand Banking Group and The Bank of Adelaide announced that their respective boards had agreed on proposals to merge the two banks' interests.

24 The Commonwealth Government announced details of a number of decisions relating to expenditure for 1979–80 and revenue matters. The main features were:

- postponement of the re-introduction of full tax indexation, which was to have taken effect from 1 July 1979;
- maintenance of the present PAYE deductions, including the personal income tax surcharge at its effective level for PAYE purposes of 2.57 per cent, until at least 30 November 1979 or such earlier date as might be proclaimed;
- maintenance of the coal export levy;
- disallowance of carry forward for taxation purposes of paper losses created under tax avoidance schemes implemented prior to announcements of legislation to counter such schemes;
- an end to the trading stock valuation adjustment from the beginning of the 1979–80 income year;
- an increase in the levy on 'import parity' oil, to allow the Government rather than oil companies to benefit from overseas price rises;
- no Commonwealth Government rebate for medical bills less than $20; and
- the imposition from 1 July 1979 of an ad valorem revenue customs duty of 2 per cent on most goods previously imported duty free.

June 1979

4 Contracts were signed by five Australian coal companies for the supply of about 1.5 million tonnes of steaming coal a year to the coal-fired power station at Samchonpo, Republic of Korea.

5 It was announced by the Commonwealth Government that expenditure on education during 1980 would be reduced by 2.1 per cent in money terms to $1,960.5 million. Funds for capital expenditure and equipment will be cut by up to 29.6 per cent for schools and by 15.5 per cent for universities and colleges. The Technical and Further Education (TAFE) sector will get an increase of 10.7 per cent in capital expenditure funds. Recurrent costs in all sectors will be maintained in real terms during 1980.

7 The Commonwealth Government announced that, in response to approaches from the Australia and New Zealand Banking Group and The Bank of Adelaide, from the Commonwealth Government's viewpoint, there would be no objections in principle to the two banks proceeding to merge their interests on the broad basis.

The Reserve Bank increased the interest yields on Commonwealth bonds by up to 0.4 per cent. The rates on bonds maturing July 1980, October 1982 and May 1989 were posted as 9.85 per cent per annum, 9.984 per cent per annum and 10.09 per cent per annum, respectively.

10 It was announced that the Commonwealth Government had decided to approve development of the Yeelirrie uranium project. In doing so the Government had decided to introduce some flexibility into its foreign investment policy for uranium projects, while retaining the basic objective of 75 per cent Australian equity and control.

The Commonwealth Government announced that the 1979 passenger motor vehicle global import quotas had been set at 93,000 units.

12 It was announced that the Commonwealth Government had decided to amend the income tax law to deal with further tax avoidance arrangements which involve an effective recoupment of a tax deductible loss or outgoing so that no loss or outgoing is actually suffered. These amendments are to counter schemes which exploit the availability of income tax deductions for bad debts and are to apply from 24 September 1978, in accordance with the Government's commitment that further variations of the 'recoupment' type schemes would be outlawed from that date.

13 The Australian Loan Council announced that it would increase by 0.4 percentage points the maximum interest rates for borrowings by local and semi-government authorities as from 14 June 1979.

Increased maximum borrowing rates for local and semi-government authorities were announced by the Commonwealth Government. The new maximum rates effective from 14 June are as follows: 4 to 9 years—public loans 10.4 per cent, private loans 10.7 per cent; 10 years and over—public loans 10.5 per cent, private loans 10.8 per cent.

14 It was announced that the Commonwealth Government had decided to make certain changes to the terms and conditions applying to the Income Equalisation Deposits Scheme (IED's) for primary producers, with effect for the 1978–79 and subsequent income years. The limit on deductions in any year for subscriptions to IED's will be increased from 40 to 60 per cent of gross receipts from primary production; in addition the limit of $100,000 on total deductions in respect of holdings of IED's and Drought Bonds at any one time will be increased to $250,000.

26 It was announced that the Commonwealth Government will provide an estimated $1,171 million to the States during 1979–80 under the hospital cost-sharing arrangements. This represents an increase of $130 million over the current financial year.

27 The Conciliation and Arbitration Commission granted an increase of 3.2 per cent in all federal awards.

BHP announced a 4.3 per cent increase in its steel prices.

28 It was announced that the Commonwealth Government will increase tax sharing entitlement for local government from the present level of 1.52 per cent to 1.75 per cent of personal income tax collections.

It was announced that the Commonwealth Government had decided to continue quota restrictions on imports of sheets and plates of iron and steel following the receipt of the Temporary Assistance Authority's finding that temporary assistance should continue for a further twelve months from 1 July 1979.

29 The Loan Council agreed to State Government programs for 1979–80 totalling $1,245.0 million and borrowing programs for 'larger' State authorities of $1,301.6 million, plus infrastructure borrowing programs for such authorities of $400.7 million.

The Commonwealth Government announced, that following the recent price rise decided by OPEC, new import parity prices for Australian indigenous crude will apply from 1 July 1979. The price for Bass Strait crude oil was being raised to $18.66 per bbl.

It was announced that the Commonwealth and State Governments had agreed on a legislative package to administer Australia's offshore mineral and other resources.

July 1979

3 The Commonwealth Government's decision to raise the floor price for wool to 318 cents/kg., clean whole clip average, for the 1979–80 season was announced.

4 The President of the Conciliation and Arbitration Commission announced that the present indexation guidelines would continue, at least until the end of the current series of conferences foreshadowed in the National Wage Case decision of 27 June 1979.

The Commonwealth Government announced that some changes, principally involving the tightening of the work test, had been made to the eligibility criteria for the payment of unemployment benefit.

5 The Commonwealth Government announced details of additional import quota allocations for textiles and apparel items in respect of the period 1 September 1979 to 29 February 1980.

It was announced that the Commonwealth Government would adopt the recommendations of the IAC report on hoists, pulley tackle and winches, that a long-term industry rate of 25 per cent for all goods under reference should be adopted.

10 It was announced that the Commonwealth Government had decided in principle to proceed with the issue of a gold coin with a face value of $100.

12 The PJT, in its inquiry into the impact on Australian oil prices of the recent OPEC increases, granted an interim increase of 3.1 cents per litre for motor spirit to apply from 16 July 1979.

17 It was announced that the Commonwealth Government had decided that the assets and business of the Housing Loans Insurance Corporation should be sold to the private sector.

25 The Commonwealth Government announced that the prescribed percentage figure that is to be applied in the calculation of trading stock valuation adjustment deductions in income tax assessments for the 1978–79 income year would be 5.7 per cent.

27 Increases in the basic rate of all social security pensions and benefits, to become effective from November 1979, were announced by the Commonwealth Government. The standard rate for a single person will rise by $4.70 to $57.90 per week and the pension for a married couple will increase by $7.80 to $96.50 per week.

August 1979

5 The Commonwealth Government announced that the Foreign Investment Review Board had received 287 foreign investment proposals in the June quarter. The expected investment associated with the approved proposals was $1,400 million.

6 It was announced that the Commonwealth Government was prepared to examine proposals for the acquisition of its interest in the Ranger uranium project.

Finalisation of a contract to export 2 million tonnes of wheat to the Soviet Union was announced by the chairman of the Australian Wheat Board. The wheat will be shipped at the beginning of 1980.

7 The Commonwealth Government announced terms for a conversion offer to holders of $64.5 million Commonwealth securities which matured on 15 August 1979. The securities offered were: 9.9 per cent, November 1980, at par; 10 per cent, July 1986, issued at 99.8 per cent to yield 10.04 per cent; and Australian Savings Bonds—Series 14, yielding 9.25 per cent.

10 Conzinc Riotinto of Australia Limited announced that it had gained a $1.9 billion steaming coal contract with the Japanese Electric Power Development Company. The contract is for the supply of 75 million tonnes of coal over 15 years.

11 The New South Wales Government and Total Holdings (Aust.) Pty Ltd announced a joint venture for $140 million expansion of the company's Matraville oil refinery. This expansion is expected to increase the State's petrol refining capacity by more than 20 per cent.

13 New charges for business communications equipment were announced by Telecom. From 1 September the annual rental for each extension telephone will be increased by $2. From 1 October higher installation charges for private line teleprinters and higher rental charges for a range of office communications equipment will be introduced. Long distance users of private lines for teleprinters and data services will pay less in annual rental while short distance users will pay more. These changes are expected to add between 2 per cent and 5 per cent to business subscribers' Telecom bills.

15 Increases of up to 40 per cent in the basic health insurance rates were announced by the Commonwealth Government. The rates, which vary from State to State, will range from $6.62 for basic family cover in Queensland to $9.90 for the same cover in New South Wales. The new rates will apply from 1 September.

16 The New South Wales Government announced that the last aluminium smelter site in the State had been awarded to a French company, Pechiney. The smelter will have an initial capacity of 110,000 tonnes per year when it starts production during 1983 and this will increase to 220,000 tonnes by 1985.

17 The Prices Justification Tribunal (PJT) decided to set different maximum wholesale prices for each oil company to reflect the variations in the price of crude oil charged by the companies' main suppliers. This follows the decision by the OPEC nations to implement varying price increases for crude oil from 1 July. The new prices which apply from 20 August will range from 3.28 cents per litre to 3.6 cents per litre higher than those in force before the 1 July OPEC price increase.

21 The Commonwealth Government 1979–80 Budget was presented. The main features were:

- an increase in outlays of 9.1 per cent (to $31,692 million) in 1979–80, compared with an increase of 8.4 per cent in 1978–79;
- an increase in receipts of 15.4 per cent (to $29,499 million) in 1979–80, compared with an increase of 8.9 per cent in 1978–79;
- a deficit of $2,193 million, $1,285 million less than the actual 1978–79 Budget deficit, and a domestic deficit of $875 million, $1,383 million less than the 1978–79 outcome;
- the lifting of the personal income tax surcharge with effect from 1 December 1979;

- an increase in the retention allowance for trading profits of private companies from 60 to 70 per cent;
- the introduction of twice yearly indexation for all indexed pensions and benefits, with indexation being automatic, commencing in November this year;
- a statement in the Budget Speech that growth in the broadly defined measure of the volume of money (M3) of about 10 per cent over the course of the year would be compatible with policy and that on present assessments it seemed appropriate that the outcome be not more than 10 per cent.

27 Comalco announced its decision to construct a $600 million aluminium smelter with a capacity of 400,000 tonnes at Gladstone, Queensland. The smelter would be an expansion of a 206,000 tonnes capacity plant yet to be built.

The Australian sugar industry signed a long term sugar contract worth up to $400 million with the Republic of Korea. The contract is for the supply of 1.2 million tonnes of sugar over a period of five years, commencing 1 January 1980.

September 1979

5 The Commonwealth Government announced that, as a result of the United States decision to re-allocate shortfalls of 25,400 tonnes, Australia would have the opportunity to supply an additional 15,600 tonnes of beef to the United States market this year.

14 A further allocation to the States under the National Water Resources Program was announced by the Commonwealth Government. A total of $25 million will be made available for 1979–80 of which $6.15 million was identified in the budget.

A commitment to an expansion programme for the rural telecommunications network was announced by the Commonwealth Government. The estimated cost of the expansion is $500 million. The main aim of the programme is to convert 80,000 subscribers in remote areas from manual to automatic exchanges.

25 The New South Wales Government budget was presented with estimated expenditure from the Consolidated Revenue Fund of $4,011 million, an increase of 12.4 per cent compared with 1978–79. No increases in State taxes were announced in the budget. The budget provides for an increase of 24.1 per cent in the expenditure of the Department of Youth and Community Services and an increase of 20.7 per cent in the allocation to the Department of Health. The budget also includes a number of programmes to alleviate unemployment including $5 million for grants to local councils and a Special Youth Employment Training Programme aimed at absorbing 2,000 people.

26 The Victorian Government budget was presented with total estimated expenditure in 1979–80 of $3,931 million an increase of 9.9 per cent compared with 1978–79. A number of State taxes and charges will rise including tobacco licenses, motor vehicle registration, third party insurance, stamp duty on cheques and a petrol franchise tax.

27 It was announced that the Commonwealth Government had completed a review of the application of the 2 per cent revenue customs duty which was implemented on 1 July 1979. While the Government remained committed to retaining the duty, it had decided to exempt two specific areas of imports. These were ships and similar vessels temporarily imported on the authority of the Minister for Transport and certain goods for use in connection with the exploration for petroleum wells.

October 1979

10 The Commonwealth Government announced the necessary consents under section 63 of the Banking Act to the proposed merging of interests of the ANZ Banking Group and The Bank of Adelaide. The Commonwealth Government also announced that the Governor-General in Council had executed instruments under sub-section 10 (4) of the *Banks (Shareholdings) Act* 1972 allowing the ANZ Banking Group to have an interest in 100 per cent of the voting shares of The Bank of Adelaide and The Bank of Adelaide Savings Bank Limited.

Commonwealth members of parliament agreed to accept automatic annual salary increases from 1 July 1980 in line with national wage increases. The government rejected a recommendation of the Remunerations Tribunal that the increases be six monthly.

18 It was announced that the Commonwealth Government had decided to adopt the recommendation of the report of the IAC on Passenger Motor Vehicles—Import Restrictions (dated 6 August) that quantitative restrictions on passenger motor vehicles should apply for the period 1 January 1980 to 31 December 1981.

22 Oakbridge Ltd announced the signing of a five-year contract with the U.K. Central Electricity Generating Board for the supply of 2.5 million tonnes of steaming coal, worth $120 million at present prices, over five years from 1981.

25 The Commonwealth Government announced a reduction in both the excise and customs duty for brandy of $2.75 per litre of alcohol. The removal of tariff quotas and additional temporary duties on imported brandy were also announced.

Increases in the nursing home benefits paid in all States were announced by the Commonwealth Government. The increases which range from $7.00 to $16.10 will take the range of benefits paid which vary from State to State to between $96.95 and $158.90 per week. The additional benefit paid for intensive care patients will remain unchanged at $42 per week for all States. The estimated cost to the government of the increases will be $11 million during 1979-80 and $18 million in a full year.

26 The Commonwealth Government announced the finalisation of negotiations in Tokyo for the Commonwealth's latest institutional borrowing in Japan. The interest rate on the loan of Y40 billion (approximately $A160 million) over twenty years would be 8.3 per cent per annum and the effective cost to the Commonwealth, after commissions, 8.34 per cent per annum. It was announced that the Commonwealth Government had filed with the Japanese Ministry of Finance a Registration Statement for a public bond issue on the Tokyo capital market.

Two contracts were signed for the export during 1980 of 3 million tonnes of wheat. The contracts with Egypt and China are both for 1.5 million tonnes and are estimated to be worth $460 million.

31 The Commonwealth Government announced a new series of Australian Saving Bonds—Series 15—carrying an interest rate of 9.25 per cent, the same as for Series 14.

Oakbridge Ltd announced its second steaming coal contract with a European buyer in a fortnight. The contract with the French ATIC group calls for the shipment of 2.5 million tonnes of steaming coal over five years from 1980 at an f.o.b. value of about $62 million.

November 1979

5 The Commonwealth Government announced that wheatgrowers would receive an interim first advance payment of $75 per tonne, less freight, for deliveries to the Australian Wheat Board prior to the determination of the guaranteed minimum delivery price for the 1979-80 season.

6 The Commonwealth Government announced that the International Monetary Fund (IMF) had approved an application by Australia for a drawing of $27.7 million from its Buffer Stock Financing Facility for the purpose of funding special stocks accumulated by Australia during 1978 as part of its obligations under the International Sugar Agreement.

11 It was announced by the Commonwealth Government that Australia would have the opportunity to supply a further 6500 tonnes of beef to the U.S. market in 1979 as a result of the inability of other countries to meet their allocated quota.

12 The Australian Wheat Board announced that it had signed an agreement for the sale of 600,000 tonnes of wheat to Indonesia during the following 12 months.

The Commonwealth Government provided further details of the scheme to tax the income of trusts and dependent children announced on 26 July 1979. The Government had decided that the new system would not apply to student children aged 18 to 25 years and that the level of 'non employment' income exempted from the scheme would be increased from $416 to $1,040.

22 It was announced that the Commonwealth Government had completed negotiations for its fourth Yen public bond issue on the Tokyo capital market. The loan of Y30 billion (approximately $A112 million) would carry an interest rate of 8.2 per cent per annum over a term of 12 years.

23 BHP announced an average 5.25 per cent increase in steel prices effective from 26 November.

27 The Treasurer and the Minister for the Capital Territory announced the Government's decision, with effect from 1 January 1980, to raise the general pay-roll tax exemption level applying in the A.C.T. to match the proposed corresponding level in N.S.W.

28 It was announced that approval had been given under the Commonwealth Government's foreign investment policy for the development of the Worsley bauxite/alumina project in Western Australia and would involve capital expenditure of approximately $1,000 million.

30 The Governor of the Reserve Bank announced that the Statutory Reserve Deposit ratio of the major trading banks would be raised from 5.5 per cent to 6 per cent effective 6 December.

The Supreme Court of South Australia issued an order approving a Scheme of Arrangement between the Bank of Adelaide and its members providing for the merger of the Bank with the Australia and New Zealand Banking Group.

The Commonwealth Government announced that the guaranteed minimum delivery price for wheat to apply for the 1979–80 season under the new wheat marketing arrangements would be $114.71 per tonne. Wheat sold on the domestic market for human consumption had been set under the legislation at $128.78 per tonne.

December 1979

7 Commonwealth and State Governments, meeting as the Loan Council, approved nine new infrastructure projects under the special financing program designed to accelerate national development. The new project would require additions to semi-government borrowing programs totalling $800 million at current prices over the eight-year period to 1986–87.

The Premiers' Conference adopted the new guarantee arrangements which would set a minimum amount to be provided to the States in 1980–81 under the tax sharing arrangements. The States' tax sharing entitlements in 1980–81 would be 39.87 per cent of net personal income tax collected in 1979–80, distributed amongst the States according to the tax sharing relativities. Under the new guarantee arrangements each State would receive no less in real terms than the amount it received in 1979–80.

The Commonwealth Government announced that a conversion loan would not be made to holders of $496.2 million Commonwealth bonds due to mature on 15 December.

11 The Commonwealth Government announced that Japan would import a further 8,000 tonnes of Australian beef under the special purpose beef quota in the remainder of the 1979 financial year.

12 The Commonwealth Government released further details of the proposed income tax concessions, announced in the 1979–80 Budget Speech, to apply in respect of expenditure on converting oil-fired equipment to use alternative energy sources.

18 It was announced that the Commonwealth Government had determined the details of the export facilitation scheme to be introduced into the Motor Vehicle Manufacturing Plan. A decision to introduce an export facilitation scheme, together with its minimum elements, was announced by the Commonwealth Government in February 1979.

The Commonwealth Government announced the sale of the Government's share of the Ranger uranium project to Peko-Wallsend Ltd for a cash premium of $125 million and full reimbursement of expenditures incurred.

20 The Commonwealth Government announced that Australia would be able to export a further 3,100 tonnes of beef to the United States in 1979 as a result of the inability of other beef exporting countries to supply their full entitlements to that country.

28 The Esso/BHP Partnership announced planned expenditure of $240 million on Bass Strait exploration and development in 1980. This would double the 1979 spending. The Partnership had set a budget of $1,200 million for exploration and development during the four years commencing 1980.

30 The Commonwealth Government announced new import parity prices to apply in respect of indigenous crude oil production from 1 January 1980. The price of Bass Strait crude, which comprises over 90 per cent of Australian production, was increased by $6.11 per barrel to $24.77 per barrel.

LIST OF SPECIAL ARTICLES AND MISCELLANEOUS MATTER CONTAINED IN PREVIOUS ISSUES

This list refers to special articles and other more or less important miscellaneous matter which have appeared in previous issues of the Year Book but which are not included, or are included in abbreviated form only, in the present issue.

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